

Rural District Council of Dartford



R E P O R T

ON CERTAIN MATTERS
CONCERNING

Public Health

FOR THE YEARS
1966 and 1967

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RURAL DISTRICT COUNCIL OF DARTFORD

Report for the years 1966 and 1967
on certain matters concerning Public Health

September 1970

To THE CHAIRMAN AND MEMBERS OF THE
RURAL DISTRICT COUNCIL OF DARTFORD

Mr. Chairman, Ladies and Gentlemen,

As soon as practicable after the end of each year it is the duty of a Medical Officer of Health to make to the local authority a report for that year on the sanitary circumstances, sanitary administration, vital statistics and on any other matters concerning their district on which he considers it desirable to report. The report that follows is written in compliance with that duty.

I regret that the completion of the report is so late but being a small department some delay in the preparation is inevitable if we are to include collect and analyse what information is available and spread the work amongst our routine commitments. The practice of compiling our own tables is time consuming but unless we do our own compilation we cannot inform ourselves on details such as quarterly death rates, place of death etc.

Most of the tables and appendices were ready in early 1969 but thereafter the report was delayed until there was an opportunity to prepare a commentary.

Whether detailed analysis of local information justifies the time involved is uncertain, we can however hope that it will provide a record for future reference.

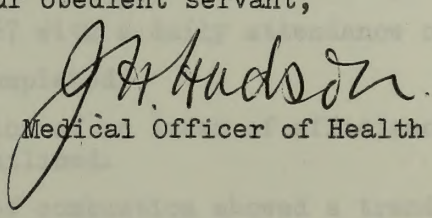
The information in this report contains much material provided by officers of other departments and other authorities or organisations. The progress in certain environmental matters relates to the work of the Council's Public Health Inspectors. The presentation of the statistical material owes much to the patience of the clerical assistant concerned. I thank these colleagues for their co-operation.

On behalf of my colleagues in the public health office and myself I wish to thank the Chairman and Members of the Public Health Committee for their support and interest during the period under review.

I am,

Mr. Chairman, Ladies and Gentlemen,

Your obedient servant,


Medical Officer of Health

The population increase continued. To this the balance of migration contributed as much as the natural increase.

Through 1960-67 the rate of natural increase has been declining.

The decline in the adjusted birth rate since 1961 continued.

Through 1962-67 the adjusted death rate has been declining. 16% of all deaths were at age 85 years or older.

The percentage of deaths in hospital exceeded that of England and Wales.

The death rate from respiratory disease 1958-67 exceeded that of England and Wales.

The death rate for coronary disease 1958-67 was similar to that of England and Wales. In the years 1962-67 winter showed the highest death rate from this cause.

Through the years 1958-67 the death rate for lung cancer was less than that of London. The death rate was not very different from the lung cancer registration rate. The years of retired life lost from lung cancer were thrice the years of working life lost.

A maternal death occurred in 1966. Through 1959-66 the death rate from this cause was the same as that for England and Wales.

In 1966 and 1967 there were 4 cot deaths.

The local pattern of effective suicide is given for the years 1953-67. The rate decreased. It is conjectured that in the generation concerned their village environment (in Dartford R.D. and its former parish Swanscombe U.D.) contributed to their low death rates from this cause.

The local pattern of deaths from motor vehicle accidents 1958-67 is given. The death rate from this cause in Kent rural districts was higher than in urban districts and higher in Dartford R.D. than in the neighbouring districts. 47% of deaths included a fractured skull in their injuries.

The pattern of 10 years deaths from accidents in the home and institution is given. The death rate is less than that of England and Wales.

The years of life lost from motor vehicle accidents 1958-67 were more than from all other accidents including accidents in the home.

Influenza appeared in the first quarter of 1966 and last quarter of 1967. For the first time since 1957 the highest quarterly death rate from all causes occurred in the last quarter.

Measles conformed to its biennial cycle.

Through 1958-67 of 5352 deaths of persons not on the tuberculosis register 13 had tuberculosis revealed by their final illness.

Of the salmonella infections in 1966 and 1967 two separate infections were observed to continue for months.

In 1966-67 rates for vaccination of young children against poliomyelitis, smallpox, diphtheria, whooping cough and tetanus were 60-80%. Re-vaccination of school children against smallpox was negligible.

Figures available for vaccination against smallpox were not in a form facilitating concise interpretation.

Houses built continued to number around 500 annually. In 1966 and 1967 the number of dwellings closed or demolished was 17 and 18 respectively.

The waiting list of applicants for Council tenancies showed a trend of decline.

The water supply continued to be deficient in fluorine.

The Council's swimming pool was opened in 1967 with a daily attendance of 1000.

The Longfield/New Barn Sewerage Scheme was completed.

The advantages which would follow the provision of an index of efficiency of dust arrestment from each cement works are outlined.

Pollution of the air with unwanted products of combustion showed a trend of decrease.

By the end of 1967 radioactive Sr.90 had returned to its pre-bomb test level.

DARTFORD RURAL DISTRICT 1966-67

COMMENTARY

POPULATION

Table I

The annual growth of recent times continued with natural increase - excess of births over deaths - accounting for one third to one half of the growth and net immigration - excess of entrants over leavers - accounting for one half to two thirds. An exceptionally large increase in excess of entrants over leavers occurred in 1966 no doubt due to the exceptionally large number of houses, mainly private enterprise, completed the previous year.

Although the rate of natural increase remains high there has been a gentle but steady decline since 1960 when the high rate was partly a result of the unique absence of influenza. The rates of natural increase per 1000 population for 1964-67 were:

	1964	1965	1966	1967
Dartford R.D.	10.9	10.3	9.5	8.1
Dartford Town	9.4	10.1	8.7	8.8
Northfleet U.D.	12.5	12.6	11.1	10.3
Swanscombe U.D.	11.1	8.8	9.2	10.0
England & Wales	7.0	6.9	6.0	6.0
Kent A.C.	6.4	6.2	5.8	5.6

BIRTHS

Table II

The trend was:

	1961	1962	1963	1964	1965	1966	1967
Births Dartford R.D.	1159	1187	1203	1199	1172	1176	1099
Rate adjusted by C.F.	20.8	20.6	18.5	18.3	17.5	17.0	15.7
Rate Eng.& Wales	17.4	18.0	18.2	18.5	18.1	17.7	17.2

The abrupt drop of the rate in 1963 was due to the change in the comparability factor. From the absolute figures the fall is seen to be smooth - the minute check in 1966 was no doubt associated with the large number of houses completed the previous year.

The percentages of births at home were:

	Births	Code 1-5 Nursing Home or hospital	Code 6 & 7 Elsewhere i.e. own home	Percentage at home
1958	941	633	308	32%
1959	979	654	325	33%
1960	1068	706	362	34%
1961	1159	768	391	34%
1962	1187	766	421	35%
1963	1203	766	437	36%
1964	(1199)1218*	780	438	36%
1965	(1172)1164*	769	395	34%
1966	(1176)1172*	811	361	31%
1967	1099	796	303	28%

* Later figure by R.G.

In Dartford M.B. the percentages born at home for 1964-67 were 25% 23% 22% 19%. The percentages for England and Wales were 30.0% 27.5% 25.0% 22.2%.

DEATHS		1961	1962	1963	1964	1965	1966	1967
Table II	Dartford R.D. (R.G.)	538	560	578	569	563	599	600
	Rate adjusted by c.f.	11.1	11.5	11.2	10.9	10.4	10.4	10.2
	Rate Eng.& Wales	12.0	11.9	12.2	11.3	11.5	11.7	11.2

Rate The adjustment of the R.D. death rates is by a comparability factor which has decreased since 1962 with the mild ageing of the population.

 The 95% confidence limit of our annual rate is around 0.8 and that of our quinquennial rate is around 0.4 Thus the difference between our rate and that of England and Wales is not likely to be due to chance.

Age We have a somewhat younger population than England and Wales and yet the proportion of deaths occurring at age 75 and over continue to be around 44% the same as England and Wales. From this we might conjecture that our expectation of life is a trifle longer than that of England and Wales. In 1966 and 1967 deaths after the age of 84 were 97 and 98, that is 16% and 16% of all deaths. An objective of public health work is I think, for all deaths to occur after the age of 84.

Season Distribution of deaths by quarters in 1966 followed the usual pattern which gives the highest death rate to the first quarter. In 1967 however, for the first time since 1957 the first quarter did not contain the most deaths. The winter of the first quarter was unusually mild and as in 1957 influenza was exceptional in that it did not appear until the end of the year.

Place In 1966 and 1967 the percentages of deaths occurring in hospital were 69% and 62%, in Dartford R.D, 74% & 74% in Dartford Town and 51% and 51% in Northfleet. In 1965 the percentage for England and Wales was 48%.

RESPIRATORY DISEASE

Table VIIb Respiratory disease is related to environmental conditions - overcrowding, bad housing, childhood infections, tobacco smoking and atmospheric pollution. Environmental circumstances are a prime responsibility of a district council and therefore respiratory disease deserves their attention.

 Details of deaths from respiratory disease for the 10 years 1958-67 are given in Table VIIb. A feature of these details is the low death rate for 1960, a year made unique by the absence of influenza. Table VIIb may be summarized as follows:-

Year	Adjusted R.D.Death Rates	95% C.L. (2 x s.e.)	Death Rates elsewhere	
1958-64	1.63	.14	1.81	London A.C.
1965-67	1.88	.20	1.54	Greater London
1958-67	1.71	.12	1.48	Eng.& Wales

 Our death rate from respiratory disease can thus be regarded as less than that of inner London, larger than that of Greater London and larger than that of England and Wales.

 The percentage of deaths from respiratory disease in deaths from all causes gives a similar pattern except that the only difference from the Greater London and Eng. & Wales percentages are statistically significant.

	Percentages Rural District	95% C.L. (2 x s.e.)	Percentages elsewhere	
1957-64	15.0%	1.2	15.3%	London A.C.
1965-67	18.0%	2.0	13.8%	Greater London
1957-67	16.0%	1.1	12.7%	Eng. & Wales

Bronchitis
Table VIIc

Of the respiratory diseases bronchitis in particular is related to the environmental conditions and is a noteworthy influence on the health of this country.

Details of the deaths from bronchitis for the 10 years 1958-67 are given in table VIIc which may be summarized as follows:

Bronchitis			
Year	Adjusted R.D. Death Rate	95% C.L. (2 x s.e.)	Death Rates elsewhere
1958-64	0.70	0.09	0.88 London A.C.
1965-67	0.67	0.12	0.62 Greater London
1958-67	0.69	0.07	0.61 Eng.& Wales

Our death rate from bronchitis can thus be regarded as less than that of Inner London, similar to that of Greater London and larger than that of England and Wales.

CIRCULATORY
DISEASE
Table VIIe

Deaths from this main cause from 1962 to 1967 have been: 189, 213, 204, 200, 204, 206. The percentages of deaths from this cause have been 34% 37% 36% 35% 35% 34%. The percentages for England and Wales having been 38% 37% 37% 38% 37% 37%. Half the deaths here occurred at age 75 years or more.

Coronary
disease
Table VIIe

This disease of the heart which may be associated with physical and emotional environment - too little exercise, excess of good food abundant exasperation - presented itself as show in table VIIe. This may be summarized:

Coronary Disease			
Year	Adjusted R.D. Death Rate	95% C.L. (2 x s.e.)	Death Rates elsewhere
1958-64	2.07	.15	2.09 London A.C.
1965-67	2.21	.23	2.30 Greater London
1958-67	2.12	.13	2.18 Eng.& Wales

Our death rates from coronary disease can thus be regarded as similar to that of Inner London, Greater London and England and Wales.

The percentage of deaths from coronary disease in deaths from all causes gives a similar pattern the percentage in this rural district being similar to the percentages elsewhere.

Year	Percentage Rural District	95% C.L. (2 x s.e.)	Percentages elsewhere
1958-64	18.9%	1.4	17.7% London A.C.
1965-67	21.3%	2.1	20.7% Greater London
1958-67	19.6%	1.1	18.7% Eng.& Wales

Trend

The death rates from coronary disease in table VIIc show an upward trend which is only interrupted by a drop in 1964 after an increase in 1963 which in Dartford R.D. and London A.C. was large. The trend upwards in Dartford R.D. is illustrated by the increase of the death rate from 2.07 to 2.21 shown above. However, the standard error for the difference between these two rates works out at 0.14 which implies that there is about a 1 in 3 probability that the increase could be due to the play of chance.

Season

The deaths from coronary disease which attract our attention in day to day affairs are the deaths which occur at the prime of life. However, the statistical reality is that 2/5ths of the deaths from this cause occur at the age of 75 or over. Having regard to the prevalence of this disease amongst the aged and presumably frail one might expect the season of the year to assert an influence on the timing of such deaths. Mentioned above is the accentuated increase in the death rate shown in 1963 followed by the lesser death rate of 1964. The winter of 1963 was severe while that of 1964 was mild. With this background in mind and the rather exceptional number of deaths in this district from this cause in 1967 the deaths from coronary disease are here tabulated by quarters.

Year	Quarters	Deaths all ages			Deaths aged 75+			% 75+
		M	F	P	M	F	P	
1962	1st	24	11	35	8	8	16	46%
	2nd	6	11	17	4	7	11	64%
	3rd	10	7	17	5	5	10	58%
	4th	<u>14</u>	<u>18</u>	<u>32</u>	<u>7</u>	<u>13</u>	<u>20</u>	<u>62%</u>
	Year	<u>54</u>	<u>47</u>	<u>101</u>	<u>24</u>	<u>33</u>	<u>57</u>	<u>57%</u>
1963	1st	23	23	46	9	15	24	52%
	2nd	11	12	23	2	8	10	44%
	3rd	16	7	23	5	5	10	44%
	4th	<u>24</u>	<u>9</u>	<u>33</u>	<u>8</u>	<u>6</u>	<u>14</u>	<u>42%</u>
	Year	<u>74</u>	<u>51</u>	<u>125</u>	<u>24</u>	<u>34</u>	<u>58</u>	<u>46%</u>
1964	1st	18	11	29	6	7	13	45%
	2nd	11	11	22	4	8	12	54%
	3rd	18	8	26	5	3	8	31%
	4th	<u>28</u>	<u>13</u>	<u>41</u>	<u>10</u>	<u>7</u>	<u>17</u>	<u>42%</u>
	Year	<u>75</u>	<u>43</u>	<u>118</u>	<u>25</u>	<u>25</u>	<u>50</u>	<u>42%</u>
1965	1st	13	10	23	4	4	8	35%
	2nd	14	11	25	7	6	13	52%
	3rd	8	11	19	4	6	10	52%
	4th	<u>30</u>	<u>18</u>	<u>48</u>	<u>9</u>	<u>11</u>	<u>20</u>	<u>44%</u>
	Year	<u>65</u>	<u>50</u>	<u>115</u>	<u>24</u>	<u>27</u>	<u>51</u>	<u>44%</u>
1966	1st	30	21	51	9	14	23	45%
	2nd	11	8	19	2	3	5	26%
	3rd	12	9	21	3	4	7	33%
	4th	<u>16</u>	<u>8</u>	<u>24</u>	<u>1</u>	<u>5</u>	<u>6</u>	<u>25%</u>
	Year	<u>69</u>	<u>46</u>	<u>115</u>	<u>15</u>	<u>26</u>	<u>41</u>	<u>36%</u>
1967	1st	28	17	45	6	12	18	40%
	2nd	18	16	34	9	8	17	50%
	3rd	21	15	36	5	9	14	39%
	4th	<u>19</u>	<u>10</u>	<u>29</u>	<u>8</u>	<u>4</u>	<u>12</u>	<u>41%</u>
	Year	<u>86</u>	<u>58</u>	<u>144</u>	<u>28</u>	<u>33</u>	<u>61</u>	<u>42%</u>
1962-67	1st	136	93	229	42	50	102	45%
	2nd	71	69	140	28	40	68	49%
	3rd	85	57	142	27	32	59	42%
	4th	<u>131</u>	<u>76</u>	<u>207</u>	<u>43</u>	<u>46</u>	<u>89</u>	<u>43%</u>
1962-67	Years	<u>423</u>	<u>295</u>	<u>718</u>	<u>140</u>	<u>178</u>	<u>318</u>	<u>44%</u>
1962-67	Aggregate of An. population Estimates	Aggregate of deaths		% of total deaths	Crude Ann. Death Rate	95% C.L. (2 x s.e.)		
1st qr.	350650	229		32%	2.62	0.34		
2nd qr.	"	140		20%	1.58	0.27		
3rd qr.	"	142		20%	1.61	0.27		
4th qr.	"	207		28%	2.35	0.31		
Total	"	718		100%	2.05	0.15		

The difference of the rate for the 1st qr. from that of the 3rd is 1.01. The s.e. of this difference is 0.26. The probability of the difference being due to the play of chance is thus around 1 in 1000. The difference is statistically significant. There is no seasonal emphasis on age.

CANCER

In the years 1960-67 deaths from this cause have been 97, 107, 107, 110, 106, 99, 119 and 134.

Cancer deaths in 1966 and 1967 comprised 20% and 22% respectively of all deaths. The percentages for England and Wales were 19.2 and 20.3.

The crude death rates per 1000 population for this Rural District were 1.96 and 2.17; for England and Wales 2.25 and 2.28. With s.e.'s of 0.18 and 0.19 the difference is not statistically significant.

At the 1960-62 South Metropolitan Cancer Registry rate of 3.14 an average of about 173 cases were registered annually from 1958-67 in a population of our size. The amount by which this exceeds the annual number of deaths from this cause seems uncomfortably small.

Cancer of the lung

Cancer of the lung is related to wilful pollution of inspired air with tobacco smoke and to a factor of town life which is probably atmospheric pollution. District Councils have a responsibility for alleviating the position through health education and clean air administration.

Certain details of the deaths from cancer of the lung given in table VIId may be summarized as follows:-

Year	Adjusted R.D. Death Rate	95% C.L. (2 x s.e.)	Death Rates elsewhere
1958-64	0.46	.07	0.68 London A.C.
1965-67	0.54	.11	0.73 Greater London
1958-67	0.49	.06	0.52 Eng. & Wales

Thus our death rate from lung cancer is lower than that of inner London and lower than that of Greater London and if the difference is due to chance then it is with a probability of less than 1 in 20.

Our death rate is also lower than that of England and Wales but there is a probability of more than 1 in 20 that this difference is due to chance.

The percentage of deaths from lung cancer in deaths from all causes presents a similar conclusion:

Year	Percentage Rural District	95% C.L. (2 x s.e.)	Percentage elsewhere
1958-64	4.3%	0.7%	5.8% London A.C.
1965-67	5.1%	1.1%	6.5% Greater London
1958-67	4.5%	0.6%	4.8% Eng & Wales

Trend

The death rates from lung cancer in table VIId show an upward trend which in Dartford R.D. is illustrated by the increase of the death rate from 0.46 to 0.54 shown above. However, the standard error between these two rates works out at .07 which implies that there is about a 1 in 3 probability that the increase could be due to the play of chance.

At the 1960-62 South Metropolitan Cancer Registry rate of 0.57 about 32 lung cancer cases were registered annually in our population from 1958-67. We had about 25 deaths annually from this cause, statistically .7 in 32 were being cured or were being assigned to another cause of death. However, this is an oversimplification. The play of chance is such that the difference is insignificant.

Age at death

Figures locally compiled give us the following:

Year	Cancer of lung		Age at death in years					Persons	
	0-24	25-34	35-44	45- 54	55-64	65-74	75+	All ages	
1958	-	-	-	2	5	3	1	11	
1959	-	-	2	2	5	15	1	25	
1960	-	-	-	4	11	4	4	23	
1961	-	-	1	3	6	6	3	19	
1962	-	-	1	2	14	8	3	28	
1963	-	1	-	1	14	7	2	25	
1964	-	-	-	2	6	12	4	24	
1965				5	7	5	2	19	
1966			2	7	8	5	5	27	
1967				5	10	15	3	33	
1958-67		1	6	33	86	80	28	234	
% in age group		0%	3%	14%	37%	34%	12%	100%	

The figures have had to be those locally compiled because before 1963 the Registrar General did not provide age groups in the tables sent to us. His total for 1958-67 is 247 our is 234.

Years of life lost
Table XII

A presentation of years of life lost through cancer of the lung is given in tables XII (a) to XII (f). For future reference the methods of calculation have been detailed - this tedium need not be repeated in future reports. The results for males may be summarized:

Cancer of the lung Males	Dartford R.D. (1958-67)	Eng.& Wales (1967)
Total deaths	190	23548
Death rate ‰	7	10
Mean age at death	64	65.4
Years of life lost ‰		
Age 15-64 (working life)	31	37
To age 85 (total life)	147	177

The years of retired life lost were thrice the years of working life lost, lung cancer, bronchitis, tobacco tax and the pension fund are in economic partnership.

Other cancers

Deaths 1958-67 (R.G.)											Total
Cancer of female breast	8	10	11	10	8	11	14	9	9	12	102
" uterus (inc.cervix)	4	5	1	5	4	3	3	1	1	3	32
Cancer of stomach	13	7	11	13	10	14	13	11	17	11	120
Leukaemia	2	4	1	2	3	5	5	5	3	5	35
Other cancer exc.lung	48	44	50	60	54	52	45	48	59	66	526

	Crude death rate per 1000 females		S.Met.reg.rate
	R.D.	E and W	1960-62
Breast 1958-67	0.36	0.39	0.74
Breast 1967	0.38	0.41	
Uterus 1958-67	0.11		0.31
Uterus 1967	0.10	0.16	

Crude death rate per 1000 persons		
Leukaemia 1958-67	0.06	0.07
Leukaemia 1967	0.08	0.06
Stomach 1958-67	0.22	0.25
Stomach 1967	0.18	0.27
Other cancer 1958-67	0.95	1.72
Other cancer 1967	1.07	

		Females	Persons
Population R.D.	1958-67	282020	554040
Population R.D.	1967	31510	61890

Cancer registration

The cancer registration rates suggest that treatment is being effective in two thirds of the uterus cancers and half the breast cancers but in lung cancers, stomach cancers and leukaemia, treatment seems not to have much influence on the final outcome. It may however be that,

- (a) many cases are presented too late for effective treatment;
- (b) a substantial number are occurring at an age when operative treatment may be inappropriate;
- (c) perhaps in 1960-62 the cancer registration was incomplete - unfortunately later figures are not yet published owing to a delay caused by the installation of computer services.

VASCULAR LESIONS OF NERVOUS SYSTEM

Rural District deaths from this cause from 1958-67 were; 61, 52, 57, 65, 77, 57, 66, 71, 76, 67. Total 649. The 1967 crude death rate for the Rural District was 1.08 ‰ and for England and Wales 1.60 ‰. The Rural District death rate for 1958-67 was 1.17 ‰. In 1966 and 1967 the percentages of deaths from this cause in all deaths here were 13% and 11%. For England and Wales 14% and 14%.

MAIN CAUSES OF DEATH

As usual the chance that any death would be due to circulatory diseases was about 1 in 3, due to cancer 1 in 5, due to defective arteries of the brain (vasc.les.nerv.system) 1 in 7 and due to infective lung disease 1 in 6. Three quarters of deaths due to cancer continued to occur before the age of 75 years.

Loss of years of life

In table XII (b) I have tabulated the loss of years of life associated with death from certain important causes.

The loss of working life in 1967, i.e. loss of working life - deaths may be a useful summary and for each death this was:

	Dartford R.D.		Eng. & Wales	
	Males	Females	Males	Females
Accidents	44.0	6.0	24.0	11.1
Cancer all sites	4.9	3.5	4.2	4.6
Bronchitis,pneumonia	4.3	3.8	4.4	4.0
Coronary disease	4.2	1.1	3.3	1.3
Cancer of lung	3.3		3.7	
Vasc.les.N.S.	1.6	1.8	1.9	1.2
All causes	6.9	3.4	5.6	3.8

DEATHS RELATING TO THE WELFARE OF MOTHERS AND INFANTS

Maternal* deaths

Table VII(h)

We had deaths from this cause*in 1953. 1958, 1963 and 1966, numbers being 1, 1, 1, and 2. The 1963 death was at home, the remainder were in hospital. All were due to obstetric causes the last three being due to air embolism (1963) and amniotic embolism (1966). The two deaths in 1966 gave for that year a death rate of 1.7 compared with the England and Wales rate of 0.26. However, deaths from this cause are rare and as the annual number is now usually none but sometimes one or two it is not sound practice to consider one year in isolation for the calculation of a death rate.

Table VII(h) which gives the data for numerous years gives a more reliable picture. In recent years the position may be summarized as follows: In the 10 years 1957-66 a maternal death occurred in 1958, in the 8 years from 1959-1966 there were 3 maternal deaths and 9296 total births. The rate for each of these years was therefore 3/9296 = 0.32. The unweighted average for England and Wales for these years was 0.31.

Incidentally, table VII (h) reminds us of how sulphonamides in the 30's; penicillin in the 40's and improved clinical services for the application of expanding knowledge in the 1950's and 1960's, have reduced the risks of pregnancy. 40 years ago the risk of death from pregnancy was 17 times greater than it is to-day. Perhaps that is one of the reasons why family life was then taken more seriously.

Infant deaths Table II The Rural District death rates of infancy before and after birth were much the same as England and Wales. The maternity and infant health services here are good and with the proximity of hospital services we might accept that we are exceptionally privileged in this respect. However, from the similarity of our death rates with those of England and Wales we might conclude that the proximity of the hospital services is not so substantial an influence as expected. The uniform distribution of satisfactory domiciliary services may be a greater influence.

Table VII (g) The pattern of our still-births is much the same as England and Wales. All but 4 in the 31 in 2 years were delivered in hospital.

Table VII (f) Of the infant deaths, over half occurred within the first week and a third within the first day of life and were mainly due to prenatal or obstetric causes.

Cot deaths The details of the older infant deaths which may be associated with environment are given in the table. They include 4 'cot' deaths, a type of tragedy which is the subject of authoritative research. All but 5 of the 41 infant deaths of the 2 years occurred in hospital.

Certain continetal rates We have made our comparison with the death rates of England and Wales but it should be added that certain developed countries on the continent produce lower infant death rates than those of this country. The infant death rate for England and Wales in 1967 was 18. For Denmark, Sweden and the Netherlands it was 16, 13 and 13 respectively.

INJURY

SUICIDE As an underlying cause of death, suicide is the only feature of mental health identifiable in our statistics. It is a feature of some environments and population groups more than others and those with an influence on the social and physical environment have an influence on its incidence.

On the practical side suicide or attempts at suicide are occasional ingredients in the grounds for medical priority in rehousing. It is not true that those who talk of suicide never commit it but on the other hand "most suicides are surprises". An objective analysis on the prospect is not easy and a background of local statistical knowledge on this subject may be useful to those who are concerned with the assessment of risk.

The tragedy of suicide is rare and consequently if we are to discern the local pattern through the obscurity created by the play of chance it is necessary to observe the incidence over an abundance of years. I have therefore given the statistics of 15 years of several districts with such an analysis in mind.

National pattern	By 1967 the national pattern had established a downward trend:										
	Mortality from suicide E970-E979 Eng.& Wales										
	Standardised Mortality Ratios (1950-52 = 100)										
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	Death rate ‰ 1967
	113	111	107	108	116	118	114	105	101	94	9.74

The mental state which leads to self injury without death is different from that which leads to self injury with death. The following summary from the report of the Ministry's Chief Medical Officer for 1964 illustrates this difference:

	Effective Suicide	Attempted Suicide
Age	Peak 55-64	Peak 24-44
Sex	Male more frequent	Female more frequent
Social class	I and II	IV and V
Social isolation	Yes	No
Method of first choice	Domestic gas	Drug (Barbiturate, Aspirin)

Effective
suicide
Tabel XI(e)

The predominant age group of our 49 local cases is between 45 and 64 and the predominant sex is male. There is in our figures a greater percentage of social class I and II than in our local population or than in our deaths from all causes.

These figures are in harmony with the Chief Medical Officer's table above but as our deaths are few in number the possibility that this may be a product of chance is not small. Again further analysis would be possible from hospital records and from the records of H.M. Coroner.

Trend
Table XI(f)

Up to 1964 when the boundary was changed the Kent death rates from this cause showed no significant trend. The Kent rural districts were not affected by the boundary change and had a reduced death rate for the 3 years 1965-67 but the reduction was not significantly free from the play of chance.

In regard to the four populations from the Rural District to Swanscombe there was a reduction of the death rate from this cause in each of the 3 five-year periods under review and the reduction from 12.0% to 6.2⁰/0000 between 1953 and 1967 is of an amount that makes it unlikely that it was a product of chance. This reduction in incidence is of interest having regard to the evolution in the last 15 years of the drug treatment of mental ill health and the evolution of the hospital and domiciliary mental health services.

Social
environment

The death rates from suicide for 1953-64 and for 1965-67 are lower in the Kent rural districts than in the Kent urban districts and the differences are statistically significant.

Kent
districts

S.E. difference 1953-64 rates	$= \sqrt{0.26^2 + 0.47^2} = 0.54$
" " 1965-67 "	$= \sqrt{0.68^2 + 0.80^2} = 1.05$
U.D. rate 1953-64	= 10.7
R.D. rate " "	= 9.3
	} diff. = 1.4
	1.4/0.54 = 2.59 s.e. .001 < P < .01
U.D. rate 1965-67	= 12.0
R.D. " 1965-67	= 8.1
	} diff. = 3.9
	3.9/1.05 = 3.72 s.e. .0001 < P < .001

Local
districts

This difference between urban and rural communities is present in the population covered by the four local authorities here. For the years 1953-67 Dartford town and Northfleet U.D. combined have a death rate of 10.6 whereas the Dartford rural area and Swanscombe Urban District combined have a death rate of 6.5 The difference between these rates is 4.1. 4.1/1.36 (i.e.s.e. of difference) = 3 which suggests that if chance produced that difference it was with a probability of .003.

Village
environment

The difference between the rural and urban rates here is again in harmony with the above mentioned Chief Medical Officer's table regarding isolation. The generation now middle aged in Swanscombe and Dartford Rural District have largely been evolved in village communities. The R.D. still represents a rural origin as far as this generation is concerned. Swanscombe was a parish of the R.D. until 1926 and has since been protected from suburbanisation by the chalk pits in the south and the river in the north. The percentage of persons born, married and who work and die in the local area is greater than any other district in this part of Kent. Social factors such as these may be the reason for the difference from the neighbouring Dartford and Northfleet urban rates. They lend support to such neighbourhood projects as New Ash Green and to urban parish councils in local government reform. But whether a village social environment can be created artificially and without work for all in the vicinity is perhaps another matter. The multi-class rural community with public house, church, village school and hall and the single class monotonously prosperous garden suburb seem at different ends of the suicide spectrum.

MOTOR
VEHICLE
ACCIDENTS

Deaths of local residents. In this rural district deaths from this cause in 1966 & 1967 numbered 7 and 4. 4 and 2 respectively were results of accidents outside this district.

The years of life lost were 402 and 192.

Kent U.D. and R.D. death rates Including for the years 1958 -1964 the then Metropolitan Kent districts, the Kent death rates for 10 years were:

1958-1967

		Deaths	Aggregated Population estimates	Rate °/oooo
Table	Kent U.Ds	1446	11757360	12.3
XI(a)	Kent R.Ds	632	3858830	16.4
	Eng.& Wales	66790	467822000	14.3

For the years 1965-67, i.e. since the exclusion of Metropolitan Kent the Kent U.D. and R.D. death rates were 13.1°/oooo and 16.6°/oooo respectively.

The standard error of the difference is 1.35 so the difference of 3.5 is statistically significant ($3.5/1.35 = 2.6$.001 < P < .01).

The higher death rate of rural residents may be related to greater dependence on the motor car for transport and to rural dwellings being adjacent to out-moded roads.

Local death rates Local deaths compiled over 10 years (to reduce the influence of chance on small local figures) gives a similar pattern but the similarity could, with 10 - 20% probability, be a product of chance.

	Deaths	1958-67 Rate °/oooo	S.E.
Dartford R.D.	79	14.3	1.61
Dartford M.B.	65	14.2	
Northfleet U.D.	26	11.5	
Swanscombe U.D.	8	8.8	3.12

Difference between Swanscombe UD and Dartford RD. $14.3 - 8.8 = 5.5^{\circ}/oooo$

S.E. difference = $\sqrt{1.61^2 + 3.12^2} = \sqrt{12.4} = 3.52$
 $5.5 \div 3.52 = 1.58$ $0.1 < P < 0.2$

Deaths on local roads From the Chief Constable's reports we obtain statistics of injuries to persons on local roads who may or may not be residents of the districts mentioned. The following were derived from the Chief Constable's reports:

1961-67

	Aggregated Population estimates	Killed	Rates per °/oooo per year	
			Seriously injured	Slightly injured
Kent U.Ds (Police area)	5863230	10.3	165	463
Kent R.Ds.	2697160	28.0	317	724
Dartford R.D.	403910	21.8	228.0	590
Northfleet U.D.	165350	9.1	165.4	480
Swanscombe U.D.	64150	18.8	320.0	636
Dartford M.B.	324440	14.2	210.0	584

Thus again the pattern gives prominence to the rural areas.

Density of
road deaths

The average time taken for an ambulance to reach the scene of an emergency in Kent is around 6½ minutes. Having regard to the greater distance travelled it seems remarkable that the figure is similar to that in London of the London ambulances- no doubt the obstacle of distance in Kent is replaced by that of congestion in London.

The following summarizes the area distribution of road deaths:

1961-67			
Local Authority	Area in acres	Deaths of road users	Deaths per year per 10,000 acres
Kent R.D.	780300	753	1.4
Kent U.D. (Police area)	140535	602	6.1
Dartford R.D.	34038	88	3.7
Northfleet U.D.	3768	15	5.6
Swanscombe U.D.	2142	12	7.9
Dartford M.B.	4291	46	15.4

Mode of
death

The killed as a percentage of those killed and seriously injured is conjectured as a possible index of the severity of injuries and effectiveness of emergency care. The percentages were:

1961-67			
	Killed	Killed + seriously injured	Percentage
Kent U.D. (Police area)	602	10292	5.8%
Kent R.D.	753	9302	8.1%
Dartford M.B.	46	728	6.3%
Dartford R.D.	88	1004	8.8%

Thus the injuries in rural areas appear to be more severe.

Percentages elsewhere were:

	1958	1964	
England	7.8%	7.6%	See page 34 CMO's report for 1965
S.E.Hospital Region	7.0%	6.8%	
Wales	7.2%	5.9%	

Skilled
aid

By skilled first aid treatment the outlook of accident casualties suffering from certain injuries e.g. asphyxia and haemorrhage may be improved. The rapidity with which such treatment can be provided is therefore a matter of importance. We have seen that the average time for ambulances to reach the scene of emergency is 6½ minutes. Amongst the 79 deaths of local residents between 1958-67 there were no deaths that appeared preventable through quicker first aid. The nearest one whose chance might conceivably have been improved was a death involving rupture of the external iliac artery (ICD. N869) 37 of the 79 deaths i.e. 47% included a fractured skull amongst other causes (ICD. N800-804).

24 of the deaths were those of pedestrians, 7 were pedal cyclists and 8 were in vehicles that left the road without any collision. Incidentally, table XII (a) shows that freedom for the mentally ill or mentally subnormal has its price.

ADMINISTRATIVE
MATTERS

Accidents are determined by probabilities programmed by human activities. Their frequency is governed by complex formulae whose ingredients include features of human behaviour. Motor vehicle accidents include mechanical ingredients and the mechanisms involved are man made. The risks created rely directly on man for their modification.

Mathematical

"Statistics appear to have proved that the imposition of speed limits reduces accidents increasingly as the limit is reduced..... In the ultimate, if we all stood still all the time there would be no road accidents at all ! But surely we must try to make it possible for all of us to drive in safety at 100 m.p.h."

Nature

Injury through accidents is the main epidemic of to-day replacing infectious disease which was the epidemic of the past. However, while remedies for accidents are theoretically simpler than those of infectious disease their application is more difficult.

The incidence of both hazards is a product of probabilities but in managing the probabilities of infectious disease Nature is man's partner, man is cooperative with man, and even the invading damaging organisms have a vested interest in the survival and health of man

In the accident epidemic Nature is neutral and the damaging influences are ruthless.

Psychology

The mind wishes to regard accidents as phenomena that should not occur and should they occur then their place is with other communities and other people. The hopes and expectations are that the previous accident will not recur locally. Accident prevention work has the unfortunate flavour of an unwanted abstract subject the task fulfilment of which is unclear. Its importance is appreciated only by involvement which is unpleasant, or by study which is onerous, or both. As far as public persuasion is concerned the work is frustrating. To quote the Chief Constable " education among adult persons is probably the least profitable sphere of road safety work, since much that can be said is probably not new and should already be known to any intelligent person".

One of the obstacles to control is man.

There appears to be a difference between urban and rural administrative attitudes. The density of road deaths being greater in the urban areas, results in town dwellers being more closely involved in such accidents and more informed of their consequences. To them an accident is more likely to be an event rather than a statistic and the victims are more likely to be local rather than strangers passing through.

The parishes of the rural district are similarly involved and where there are anxieties regarding road safety their residents form their own safety committees - they feel no doubt that as stated in the 1967 "Road Safety - a Fresh Approach" white paper, 'in the end road safety is for the man in the street'. But for the Rural District as a whole administration of this problem contains less close involvement.

Safety
Committee

For the individual and for the corporate body, accident prevention work requires close study and objective thought. The importance of road safety though equal to that of safety at work, at sea and in the air is at a great disadvantage through its shapeless administrative structure. The Road and Home Safety Committee of this District has the advantage of a devoted membership with skills in safety matters who devote their community service mainly to this subject. Yet the Committee holds its responsibilities by delegation from the County Council and is

largely restricted in its activities to the instruction of the young in the safe use of the roads. Any matter beyond these terms of reference is referred to the Council's General Purposes Committee. In practice the Committee is not allowed to evolve to a stage beyond that of a senior Tufty club.

The Road Safety officer here is part-time. Neighbouring urban authorities have full-time accident prevention officers each with their own office and the remedies for road hazards which are regarded as the concern of the urban committees go beyond the provision of facilities for instructing the young in road use.

Thus, with the larger mileage of dangerous roads in this district and more road accidents than in neighbouring districts, facilities for road safety administration here seem inferior to those of our neighbours.

Amongst matters given consideration in the years under review were the following:

Name of
Committee

The name "Road and Home Safety Committee" for a committee whose road safety duties are limited to education of road-users is misleading for the public looking to the Council for amelioration of road safety problems. To avoid this misunderstanding the Committee recommended that the name be changed to "Committee for Education in Road and Home Safety". This proposal was supported by the Council and placed before the County Council in 1965 and the Rural District Councils Association in 1966 but without success.

Spectacle
frames

Spectacles with rims and sides pieces which obscure side vision are an obstacle to safe driving, but rimless spectacles are not obtainable through the National Health Service. The Road and Home Safety Committee accepted that this should be remedied and in 1967 approached the Kent and Sussex Accident Prevention Federation to make representations to the Ministry of Health that rimless spectacles be provided by the National Health Service. The proposal was not supported.

Footpaths

In this district long stretches of empty side footways exist beside main trunk roads congested with fast heavy traffic. In 1966 it was suggested that the Road Safety Committee should give this matter consideration with a view to seeking support for amending legislation which would allow pedal cyclists to use these footways. The matter being outside the terms of reference of the Road Safety Committee was put before the Council's General Purposes Committee whose recommendation to the Council was that the proposal be not supported.

Convenience

When less abstract matters are concerned and where dependence on other bodies is less necessary recommendations have a better chance of realization. Largely through the initiative of the Public Health Committee a convenience for the motorway - standard road was completed at Southfleet in 1968.

HOME
ACCIDENTS

There are difficulties in being statistically precise about deaths from accidents in the home. In regard to the aged who provide a substantial portion of such accidents it is not always easy to say whether the accident has been a contributory or an underlying cause of death. While the patient is in bed with a fractured femur immobility encourages a pneumonia from which death may occur. The death may then not always be assigned to the accident which led to the fractured femur. Or if the aged person had his last of several coronary heart attacks while in hospital the death may be assigned to the accident rather than the coronary attack. Infirmary of age may not only be the cause of an accident but may be the cause of death attributed to the accident.

Obstacles
to precision
(continued)

Deaths from accidents due to epilepsy are assigned by the international code to "epilepsy" and not to accidents - a verdict of misadventure by H.M. Coroner does not cause death to be assigned to "accident". However, if the word "epilepsy" is in the second paragraph of the death certificate the death is likely to be classed as "accident". Similar possibilities occur with an accident associated with acute alcoholism. Understandably international classification is not the first concern of the physician or H.M. Coroner.

National statistics on deaths from accidents in the home include (as mentioned in small print) those from accidents in residential institutions which deaths in this district form a third of the combined total. It is possible to obtain national statistics on deaths from accidents in the home uncombined with those from institutions but to do so is time consuming though the Safety Committee of the Local Authority are concerned only with accidents in the home. Although motor vehicle accidents form one of the 36 groups of causes of death in the Registrar General's short list, accidents in the home and institutions are grouped with "all other accidents". In the latter group a complication of prophylactic procedure is included as an accident but in the statistics of accidents at home and in institutions it is not, admittedly there need be no misunderstanding but to avoid this reference the ICD is necessary and lay-committees have not the opportunity for this.

External
cause

The pattern of our 10 years' 36 deaths from accidents in the home and institutions is, allowing for the play of chance, in harmony with the national pattern:

	Coal gas	Other poisons	Falls	Burns & Scalds	Choking & suffocation	Other	Total	Deaths
R.D. 1958- 1967	9%	3%	47%	8%	19%	14%	100%	36
E & W 1966	11%	10%	56%	11%	7%	5%	100%	7206
1967	9%	11%	57%	10%	7%	6%	100%	6676

The greatest number of local deaths are from falls which at 17 comprise half the total. However, these deaths caused only 200 years loss of life compared with suffocation which, with 7 mainly young deaths caused 473 years loss of life: choking from food impaction is a hazard of the mental hospitals.

Death
rate

Based on our 36 deaths for 10 years our death rate is less than that of England and Wales and the difference is statistically significant. The rates are as follows:

	Accidents in home and residential institutions	Population aggregate of 10 years	Deaths all causes	Accident death rate °/oo pop.	Accident deaths as % deaths all causes
Dartford RD 1958-67	36	554040	5438	0.07°/oo	0.66%
Eng & Wales 1958-67	70149	497642000	5453264	0.14°/oo	1.29%

Difference in rate = .07°/oo S.E. difference = .012
.07 - .012 = 6 °. p < .001

OTHER
ACCIDENTS

Deaths from accidents other than the above reflect the topography of the district featured as it is by railway, waterway, farms, industry, quarries and water-filled gravel pits. The accidents according to external causes of injury may be summarized:

	Dartford R.D. 1958-67	Eng & Wales	
		1966	1967
Water and Railway Transport			
Remainder E800-E866	6	492	578
Poisoning E870-E895	1	280	250
Falls E900-E904	5	873	778
Burns E916-E917	-	84	83
Drowning E929	3	758	716
Remainder E870-E936	9	937	1019
Total other accidents	24	3424	3474
Population in 1000's	554	47985	48301
Death rate ⁰ /oooo	4.3 ⁰ /oooo	7.1 ⁰ /oooo	7.0 ⁰ /oooo

External
causes
compared

"There are more deaths from accidents in the home than from accidents on the road" - so runs the propaganda statement. That this is not true for this district is evident from the following:

Dartford R.D. 1958-67			
External cause of injury	Deaths	Years of life lost	% life entitlement used up by average casualty
Accidents in the home	24	759	63%
Accidents in residential institutions	12	269	74%
Motor vehicle accidents	79	3289	51%
Other accidents	24	1123	45%

Table
XII(g)

"Other" accidents include accidents at work and by definition contains casualties who are not likely to be over 65 years of age. Accidents in residential institutions include casualties in old persons' home who by definition are not likely to be under 65 years.

AN ACCIDENT
EVADED

Three deaths that did not occur deserve attention. There are wells, boreholes, manholes, pumping stations, empty cesspools and other holes in the ground in this district which men need to enter and the incident summarized below is instructive on the risks that may be associated with the deterioration of the air in such cavities.

The water supply of Stone House Hospital had been the subject of attention for numerous years when in 1966 the Council's Public Health Inspector proceeded to obtain a sample from the hospital well. Being out of use access to the water was only possible by descent down the well. The bottom of the well is reached by a series of ladders and platforms approximately 10 feet apart and a few months previously a worker from the Civil Defence organization had obtained a sample from the bottom of the well without any discomfort. The Council's Public Health Inspector with two colleagues descended the well but when 40 feet down breathing became progressively difficult and at the Public Health Inspector's suggestion the party returned to the top.

In 1963 the M.W.B. experienced a fatal accident at one of their wells. A laboratory worker died while collecting a routine sample from a well chamber. Subsequent investigations showed the death to be due to oxygen deficiency in the air of the well.

Oxygen deficiency can be brought about by microbiological activity, slow combustion of organic matter and oxidative processes such as the rusting of iron in the environment through which the air passes to the well. The accessibility of the ground air to a well is proportional to the area of bare chalk at the side of the well below the well lining and above the water level. Entry of ground air to the well can be encouraged by low barometric measure especially if other means of egress are blocked e.g. by surrounding concrete surfaces of roads, yards and buildings. Stone House well is lined only to a depth of 18 feet. At the time of the visit of the Council's Public Health Inspector, the opening at the top of the well which formerly gave direct access to the external air, had recently been capped with concrete and a new steam main serving certain outbuildings had been built directly over the mouth of the well.

A $\frac{1}{2}$ mile to the north-east of Stone House well was a large disused chalk excavation already recently filled with many thousands of tons of refuse. A $\frac{1}{4}$ mile to the north-west was another such excavation about three quarters full. The oxygen demand of these large controlled tips from any water or air which percolates through must be large. The day of the Public Health Inspector's descent was one of low barometric pressure, 997 m.b. The steam main introduced at the top of the well shortly before the descent may have obstructed ventilation of the well by causing "inversion" conditions.

The M.W.B. were informed of the above and kindly included Stone House well in a survey they were conducting on this subject following their fatal accident of 1963. The late Dr. Maclean obtained the following results: (to which I add his note).

" July 7th 1966

Barometric pressure	29.99" (1016 m.b.), steady.
Standing Water level	108' from well top
Depth of well	125'
Lining (observed)	18' (approx.) i.e. 90' bare chalk

Depth of sample	CO ₂ % (Normal 0.03%)	O ₂ % (Normal 20.93%)
90'	8.2	7.8
60'	7.9	8.3
30'	8.1	8.2
2'	7.3	8.9
From passage leading to well,	0.6	19.7

It is quite clear that this well is very dangerous. A candle held over the top of the well was extinguished immediately and even the air in the passage leading to it shows some deficiency of oxygen and an increased carbon dioxide content."

The Hospital Management had of course been told of the suspected foul air of the well without waiting for air analysis. Subsequently after the latter had confirmed the dangerous quality of that air the well was sealed off and access thereto closed.

Darenth Park well air on analysis showed 2.3% CO₂ and 17.4% O₂.

The study of the M.W.B. wells showed that wells in the chalk tend to "suck" and "blow" according to changes in the barometric pressure and that when they "blow" the amount of air entering the well from the surrounding ground varies with the area of unlined internal well surface. By travelling through the organic material of the ground this air is deprived of its oxygen.

Had the air in Stone House well merely lacked oxygen as had the M.W.B. wells then the Public Health Inspector and his two colleagues would have lapsed into unconsciousness without warning. Fortunately the air also had a high CO₂ content and no doubt it was this that conveyed the symptoms of difficult breathing and decided the party to return to the surface.

Owing to the lowering of the water table generally and increasing bare internal surface at wells risks such as the above may be on the increase. A lighted candle in a perforated bucket lowered on a rope is a useful test preliminary to descending into such atmospheres. The light is extinguished when the oxygen percentage is 17% or less.

COMMUNICABLE DISEASE

Influenza

A2 and B influenza was present in the country in early 1966 and new claims for sickness benefit contributed evidence of its presence in England and Wales and also in Dartford Rural District. Perhaps one might discern here its influence in the deaths of the first quarter 1966 (table VIIa).

In 1967 England and Wales influenza did not appear until the end of the year. In this district sickness benefit claims began their increase at the end of December and continued their increase into the new year. Deaths in the last quarter of 1967 were more numerous than in the first quarter a feature one can link with the influenza.

Smallpox

The minor form of smallpox was in the country in the second quarter of 1966. No case occurred here.

Measles

Measles kept precisely in step with its biennial cycle (Table VIII). Around 70% of the cases were children of pre-school age and most cases occurred in the winter months.

Tuberculosis

Notifications were in keeping with a trend of decline. The 16 cases for 1966 and 1967 gave a rate of 13/0000 - that for England and Wales was 25/0000. From this and neighbouring districts the new cases attending the Dartford chest clinic each year continued to be around 40 half of which were infectious. The number of cases on the register in 1967 was the lowest since the peak year of 1963 - nevertheless, the number is greater than that of the early 1950's when, though our population was smaller tuberculosis was a greater problem. In 1966 and 1967 2563 persons from the general public and industry were X-rayed by Mass Radiography with the detection of 3 cases requiring treatment, i.e. 1.2/00 examined. The England and Wales 1967 rate for this group was 0.7/00 - the difference is not statistically significant.

Two deaths from tuberculosis in 1966 were not known to have the disease in life. Of 8 cases removed from the register by death only one had respiratory tuberculosis given as the underlying cause of death, bronchitis, fibrosis or pneumonia were given in 6 of the remainder.

Certified cause of death of tuberculosis cases

Table IX (c)

Persons are on the tuberculosis register mainly through being under observation by the Chest Physician but in quiescent cases the Chest Physician may not be in attendance at the final illness and the death certificate may in those cases be written by a medical practitioner without full records of the tuberculosis history. In this district this feature will be less evident than elsewhere because death certification in the mental hospitals is done with tuberculosis records available and because we have here a hospital for chest diseases wherein some cases have their final illness. Nevertheless one does get a general impression that at times deaths are assigned to the consequences of tuberculosis, e.g. bronchitis or lung fibrosis when it would be more accurate to assign them to tuberculosis as an underlying cause.

Another impression formed by observing removals by death from the tuberculosis register is that cancer of the lung seems to appear in these in greater proportion than in deaths from the rest of the population. Table IX (c) has been devised to provide a glance at this conjecture and though the pattern is inconclusive it does suggest that on removal of a case from the tuberculosis register by death:

- i) Tuberculosis is more likely to appear on the death certificate where the medical practitioner has the tuberculosis records available,
- ii) lung cancer is more likely to appear on the death certificates of those on the register than of those in the remainder of the population.

In the 10 years 1958-67 in the population not on the tuberculosis register 5352 deaths from all causes compiled locally contained 8 deaths with respiratory tuberculosis as the underlying cause. There were also 2 deaths with tuberculosis as a contributory cause and one death assigned to coronary disease but who was notified as suffering from tuberculosis posthumously.

The tuberculosis of these 13 cases were in most instances revealed by their final illness. Thus about 20/100 of the non-notified population screened by death showed the presence of tuberculosis - a rate of the same order as that found by routine mass miniature radiography in the general population.

Whooping
cough

Vaccination against whooping cough began in October, 1957. Notifications in the eleven years 1957-1967 have been 154, 37, 80, 133, 32, 3, 43, 25, 12, 24 and 37.

ALIMENTARY
UPSETS

Virus
vomitting

In January 1966 a score of children from a County Primary School were taken ill with vomiting and to a lesser extent diarrhoea. The Council's Public Health Inspectors arranged for specimens to be collected from those who had incurred illness but the results were negative. The school meal was an unlikely cause of infection as it was prepared in a canteen common to other schools. A specimen meal was submitted to the laboratory revealed no bacteriological infection causing illness. In a few days the absentee rate returned to normal.

A week later another school was similarly affected but as enquiries at the first school drew undesirable attention no laboratory specimens were asked for in this second outbreak. Again within a few days the absentee rate returned to normal. It was assumed that the two outbreaks were virus in origin and as influenza was present in the country at the time it was thought that a virus related to influenza was the causative germ.

Dysentery

The families of three cases of sonne dysentery notified from hospital provided specimens with negative results in 1966. In addition six cases of enteritis were notified from the district which also gave negative results. In 1967 family contacts of a s.dysentery case from hospital gave negative results. The families of five cases notified from the district with dysentery symptoms were investigated, all specimens, cases and contacts gave negative results.

Salmonellosis

Salmonella typhi-murium produced a sporadic and a family outbreak in 1966. In 1967 S.typhi-muirum produced three sporadic cases and one family outbreak. Two of the former were part of family infections. S.sandiego produced a sporadic case.

In 1967 an infection of a herd of a milk producer with S.typhi-murium was notified to us. Raw milk from the herd was being consumed by the farm workers but the remainder was being pasteurised. A sporadic case of S.indiana was found in one of the farm families. The matter of milk safety received attention.

From the beginning of 1966 an infant was kept under bacteriological observation as an excreter of S. oranienburg and the infection did not clear up until October of that year.

Two of the 1967 S. typhi-murium cases were from separate family infections which persisted for months. One was the cause of the mother being excluded from her work in the hospital service. Return to work was eventually advised as a calculated risk. However, her return to work coincided with the spontaneous clearing of the infection.

Hookworm Anclostoma duodenale in an immigrant came to our notice in 1967.

Anthrax One cutaneous case was notified in 1967. His work was that of a yard man at a firm of seed and fertilizer merchants. The lesion was on the neck which was an area in contact with the sacks of fertilizer he handled. Bone meal was one of the fertilizers but the consignment he was shifting before the occurrence of the disease had been sold before it was possible to submit samples for culture. However, the laboratory identified B. anthracis in the following consignment. Attempts to arrange for the sterilization of the infected consignment were unsuccessful and its sale was condoned on the understanding that it was accompanied by an appropriate informative statement. The employees were reminded that anthrax vaccine was available for routine protection against this occupational hazard.

VACCINATION RATES

The lower incidence of certain infectious diseases is largely a product of immunity conveyed to the population by vaccination against those diseases. The strength of this barrier needs keeping under observation.

Vaccination rates contribute measurements of relevant features in the resistance of the community opposing the introduction of such diseases. Estimates of our local rates are presented in Tables X (a) (b), (c), (d), (e) and it is expedient to compare the rates here with those elsewhere. Unfortunately the way the acceptance rates are presented elsewhere do not always allow easy comparison with our own estimates.

Smallpox vaccination rates The clearest way to present the pattern of acceptance of vaccination by the community is to provide the numbers vaccinated in the year of persons belonging to cohorts designated according to year of birth. Statistics for vaccination against smallpox are however provided not according to year of birth but according to the age at the time of vaccination - in this form they are not easy to analyse with precision if one attempts to be concise.

Table X (b)(i) Table X (b)(i) presents the nearest practicable concise comparison of the available rates for vaccination in the first two years of life but be it noted that the rate for England and Wales includes those vaccinated in their first year of life which vaccinations are excluded from the Dartford Rural District and County rates. Nevertheless it is apparent that for the first two years of life the local rates are about twice as great as the rate for England and Wales.

However, in England and Wales the vaccination of children appears to cover a wider age span although the practice now recommended for routine vaccination against smallpox is for children to be vaccinated in their second year of life. From 1963 to 1967 it was only for vaccinations at that age that records were invited and paid for by the Kent Administrative County and the absolute figures of vaccinations of children provided to us in Kent were thus only those vaccinated in the second year of life. The absolute figures presented for England and Wales on the other hand are for those vaccinated in their first year of life and for those vaccinated at the age of 1 to 4 years.

The numbers of children who would be aged between 1 and 2 years in any given year are those born between two years previous to January 1st of that year to one year previous to December 31st of that year. Thus two years' births are eligible for vaccination in any one year. Those aged 1 year at the end of the year might wait until they are 18 months old and be vaccinated in the next year and those aged 23 months at the beginning of the year might already have been vaccinated in the previous year at age 18 months. It is not unreasonable to assume however that when circumstances are constant the flow of children for vaccination is even and that those eligible for vaccination are half of those born in the previous years.

Similarly, those becoming 1 to 4 years of age in any given year could be the survivors of those born in the previous five years and the proportion which circumstances make available each year if one assumes that circumstances remain constant will be 1/5th of the survivors of those born in the previous five years. These we can use as a denominator and the number of those vaccinated at age 1-4 as a numerator.

Table X
(b)(iii)

I have therefore added a further calculation on a more precise basis Table (b)(iii) which shows that for England and Wales although the children vaccinated in 1967 at age under 2 years was 39%, the rate for children under 5 years at the time of vaccination was $5\% + 47\% = 52\%$.

By the same type of calculation the 1967 rates for children vaccinated at age 1 and 2 in the Dartford Rural District was 59% and Kent Administrative County 62%.

These calculations may be clumsy but they do illustrate the awkward background of the available statistics. The latter provide us with a useful crude index of the acceptance rate for child vaccination but it would not be impracticable to provide figures more precise and easier to handle.

In regard to older age groups and in regard to re-vaccinations rates are more imprecise and for adults we have no figures at all. Yet vaccination policy is influenced by the rate of complications of vaccination in the adult compared with vaccination in young childhood and this complication rate may be changing with changes in the nature of the vaccine. It was for 1963 onwards that the Kent County Council limited vaccination records to those of children vaccinated in their second year of life and this was done with a view to reducing expenditure. This however was a charge on the pool from which medical practitioners are remunerated and not on the public purse. No doubt we will be getting fuller figures for vaccination with the amendments of 1967 in the administration of vaccination records.

Polio-
myelitis

Table X (a) which endeavours to present the pattern and content of immunity does in spite of its shortcomings make it clear that the acceptance rate for vaccination of the young is high. Unfortunately the methods of presentation of the rates for Kent A.C. and England and Wales do not make comparison easy. We have however the following:

Table X
(a)

	Born 1965 vaccinated by end of 1966	Born 1966 vaccinated by end of 1967
Dartford R.D.	82% (953 ÷ 11.59)	83%
Kent A.C.	81%	86%
Eng.& Wales	68%	71%

Triple
Vaccine
(Diphtheria
Whooping cough
Tetanus)

Whooping cough, diphtheria and tetanus vaccines are given in one triple vaccine and again as seen from the tables the vaccination acceptance rates are high.

For comparison with the County figures we have the following:

	Children born 1965 vaccinated by end of 1966	Children born 1966 vaccinated by end of 1967
Dartford R.D.	86%	76%
Kent A.C.	85%	88%

Diphtheria

For comparison with the England and Wales figures we have the following:

	Percentage aged 0-4 completed at end of 1966	Primary vaccination at end of 1967
Dartford R.D.	75%	76%
Eng. & Wales	68%	70%

ENVIRONMENTAL MATTERS

Housing
Appendix I

The details of the houses demolished, closed, repaired and/or improved as a result of the work of the Council's Public Health Inspectors are given in Appendix I.

The number of caravans permitted on licenced sites increased from 280 in 1965 to 390 in 1967.

In the six years 1962-1967 the houses built have been:

Council enterprise	865
Private enterprise	<u>2146</u>
Total	<u>3011</u>

The number of families rehoused by the Council increased annually from 1963 onwards and the effective waiting list showed a trend of decrease from 1964 onwards.

Housing priority on medical grounds has been recommended as follows:

<u>Tuberculosis</u>				<u>Other than Tuberculosis</u>			
No. of applications for Council accom.	No. of points. 0	No. of points. 1-5		No. of applications	No. of points 0	No. of points 1-5	
1966	2	-	2	59	14	45	
1967	1	-	1	90	20	70	
App. for transfer from Council tenants							
1966	1		1	19	5	14	
1967	-		-	49	6	3	

Number rehoused after being awarded some degree of medical priority

<u>Number transferred</u>				<u>Number rehoused</u>			
	Tuberculosis	Non-tuberculosis		Tuberculosis	Non-tuberculosis		
1966	-	19		1	65		
1967	-	30		1	70		

Water
Appendix
II

The treated water distributed in this district for human consumption by the two Water Boards and the Water Company maintained its usual wholesome bacteriological quality. The quality of the raw water of the wells in the gathering ground of this district is of interest having regard to the facts that the wells are in the valleys wherein also are the sewers, the disused and re-filled gravel pits and the chalk pits.

The chemistry of the water supplies is of increasing interest. In regard to the fluorine content the water is deficient but on the other hand the hardness of the water which used to be regarded as a source of domestic inconvenience is now being regarded in a more favourable light. Not only is hardness less of a domestic inconvenience in view of the use of detergents but the hardness itself is being associated in studies elsewhere with a decreased incidence of deaths from heart disease. Furthermore, we might regard the hardness and the underground source of our water supplies as a feature protective against the hazards of strontium 90 should that ever be of importance.

Swimming
Pools

From the appendix it will be seen that it is only very rarely that the samples of water from the swimming pools in this district depart from a quality of excellence. In the Council's own pool a substantial proportion of the samples taken by the Council's Public Health Inspectors in 1967 were almost sterile.

The following is an extract from the report for 1960 while the Council's pool was in the discussion stage:

"Swimming can be of immense service to the citizen. Its value from the life-saving and life-preserving standpoint requires no emphasis. Apart from this aspect, swimming is possibly the best method of exercising every muscle of the body in the briefest time".

In 1959 a proposal received favourable consideration by the Public Health Committee for the provision of a swimming pool. However, progress towards its materialisation has been slow and opinion on its value is evenly divided, the opposition being based on the cost and size of the scheme. This is not merely a question of revenue and expenditure, this part of the rural district is barren of any healthy outlet for youthful energy and school children have to travel far for swimming facilities."

As a result of the steadfastness of the Council the pool was completed. It was opened in 1967 and the subsequent attendance that year averaged 1000 a day.

Drainage
Appendix
III

The details of the repairs, improvements and extensions achieved by the Council in association with the work of the Council's Public Health Inspectors are given in the appendix. In the two years under review the work included the abolition of 671 cesspools and the connection of the relevant dwellings to the sewer.

Air.
Dust

Dust from cement works has been the subject of discussion in previous reports. The readings of the dust deposit gauges have been statistically studied in a separate report. In regard to dust emission from cement works the Annual Reports of the Alkali etc. Works Inspector provided the following data:

Thames-side Cement Works					
	1963	1964	1965	1966	1967
Average "dust slip"					
grains per cubic foot	0.4	0.3	0.3	0.3	0.3
"mass emission" with that					
of 1964 as 100%	?	100%	87%	76%	59%
Cement production (million tons)					
Thames-side	4.5	?	?	?	decreased
England & Wales	12.9	15.5	15.5	15.3	15.8

We are grateful for the foregoing information. However, if we are entitled to extend our interest in the emissions of the cement works from the dry weather nuisance interest of the public to a complete all-weather technical interest then the information has the following short-comings:

(a) Dust "slip" in grains per cu.ft pays no regard to the method of manufacture. The semi-dry process of manufacture creates a smaller volume of flue gas than the wet process and therefore grains per cu.ft "slip" represent less emission of dust with the semi-dry process than with the wet process. Less important may be the possibility that with old plant adventitious air may gain entry and cause dilution to the flue gases or variations in the volume of air used for combustion may cause dust concentration to be erroneously represented.

(b) Emission is created by production and therefore we should have the related figures of local production. These latter figures are not given. Without any change in efficiency mass emission could be reduced by a reduction in production.

(c) The data for individual works are not given. They do not tell us therefore where there is scope for lessening the dust nuisance.

(d) The data for individual months are not given and therefore they cannot be easily related to monthly gauge readings or periods of exceptional weather.

Dust/
clinker
ratio

In certain other industries we can observe an individual chimney and compare the darkness of the particulate emission, i.e. smoke, with a shade chart and by recording and also the length of time of emission we can assess the efficiency of the works in avoiding smoke nuisance. We can then assess the scope for improvement.

With the cement industry the particulate emission is light grey and is masked by steam so that one cannot by observing the chimney emission assess the efficiency of a works in reducing dust nuisance. However an index of efficiency in an individual works does exist. It is the ratio, expressed as a percentage, borne by the dust emitted from the chimney in a given period to the clinker produced by the kiln in that same period.

This index is not made available to us. The Member of Parliament for Dartford in 1963 kindly pressed the Minister of Housing and Local Government for this dust/clinker ratio to be provided for individual works but the Minister would only agree to have average figures for all Thames-side works included in the Annual Report of the Chief Alkali Inspector and these I have given above. They do not include the dust/clinker ratio for which we asked.

The reasons for not giving us the figures for individual works are that the Ministry are given them in confidence.

Nevertheless not only should the best practicable means be taken to avoid dust nuisance but they should be seen to be taken and there seems no technical reason why a local authority however small should be denied the information of emissions from individual works.

Range
of dust
control

Without this information we have to rely on conjecture. The roofs of houses in Stone, Swanscombe and Northfleet have been indicators of the effectiveness of dust control for the individual works in their vicinity. In Stone the roofs have shown most evidence of dustiness while in Northfleet the roofs have shown least.

The cement works at Stone have had the lowest chimneys and these have been in two groups. The Stone works have had the oldest plant.

The cement works at Swanscombe for several years have emitted their effluent mainly from one high chimney.

The cement works at Northfleet since 1959 have had a high chimney (another low one albeit still in use) with electro-static precipitators that have been up-to-date and have had in use a semi-dry process of manufacture.

Thus one may conjecture that in Stone emission from the works has been the greatest and the dispersion has been the least while at Northfleet emission has been the least and dispersion has been the greatest.

As seen from the reports of the Alkali etc. Works Inspector the average "slip" at Thames-side was 0.3 grains per cubic foot. As the Alkali etc. Works Inspector disapproves of emissions of above 0.5 grains per cubic foot I imagine that to produce an average of 0.3 the range of emissions at Thames-side must have been 0.1 to 0.5 grains per cubic foot. Had this been so the likely figure for the Stone works was 0.5 while that for the works at Northfleet was 0.1. One can surmise therefore that there has been substantial technical scope for improvement at Stone but little at Northfleet.

This surmise could have been tested by the provision of figures relating to dust control at each individual works and such indices might have been useful to those with amenity and planning responsibilities.

Nuisance
level of
dust

Many industries have reduced atmospheric pollution by more efficient combustion of fuel but this contribution to the cleaning of the air has been assisted by the added incentive of fuel economy. No such incentive assists the desire of the cement industry to reduce dust emission which duty involves expenditure that is entirely unproductive. Furthermore we can presume that the nearer the industry gets to perfection the more expensive further improvement becomes. Although the cement industry is notorious for their dust emission it is not the only industry causing dust nuisance.

I have already outlined the need for precision in the information we are given regarding dust emission. To complement this we also need precision in regard to the amount of dust that is acceptable in the district and can be received without complaint. Such a figure might be flexible and by being linked with weather conditions could justify variation of dust arrestment with the weather.

Directly or indirectly the population of the district has a vested interest in the prosperity of the industry but some housewives have a greater interest in reducing the housework the dust creates. Those who have the welfare of the housewife in mind should have some guidance on how much of the industry's resources they can expect to be devoted to dust arrestment. Complete dust arrestment is impossible and may be unnecessary - what degree of perfection should the industry strive to attain? It is a tug-o'-war between housewives and cement economics.

Products
of
combustion

Pollution is at its worst in winter when space-heating demands increased emissions from domestic, commercial and industrial premises. It is expedient therefore to assess the local position from the winter measurements made by the Council's Public Health Inspectors.

As a means of indicating the coldness and the space-heating required each winter I have given the "degree days" which are detailed in appendix VII.

Smoke

I give for comparison with the readings of the gauges of this area the readings of Islington I a site in inner London among high density housing with industry, and Sheffield 60 (Redmires) a site in open country 5 miles west of the city centre. The winter of 1962/63 was exceptionally severe and authorised fuels in many places were in such short supply that smoke control orders were suspended. As will be seen from the table below a distinct downward trend has since been recorded with the result that in the winter of 1967/68 all gauges with the exception of Dartford 6 gauge showed no more than half the concentration of the winter of 1962/63. The Dartford gauge it should be mentioned is exceptional in that it is sited near heavy traffic.

Although Dartford M.B. and Northfleet U.D. had smoke control orders none of the local gauge sites was in a smoke control area during the period under review and it may be conjectured that the downward trend locally was due to the downward trend nationally. The downward national trend has followed not only the improvements initiated under the provisions of the Clean Air Acts but also the changes due to choice made spontaneously in the general population. More people were preferring to use oil, gas or electricity for reasons of convenience and there was continuing improvement in the efficiency of combustion of fuels used by industry. The air of the Nation has become cleaner and Dartford Rural District shared in this benefit. Up to the end of 1967 Dartford R.D. did not contribute to this improvement though smoke control orders were in the process of being created and the Council's influence had lessened the industrial smoke.

The concentrations have been:
Smoke

Winter	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
	microgrammes per cubic metre					
Swanley I Code B3	116	114	74	53	60	N
Stone I Horns Cross Code X	102	102	N	63	52	46
Northfleet 5 Code X	119	118	82	76	63	58
Dartford 6 Code D2	146	144	103	94	89	87
Islington I Code A2	269	188	178	142	102	87
Sheffield 60 (Redmires) Code O1	92	71	59	51	38	43
Degree days	4111	3574	3296	3111	2880	3201

Suplhur
dioxide

There was also a downward trend in the SO₂ figures but the gradient was less marked than with the smoke figures. The Clean Air Act can reduce and nearly eliminate smoke but can only disperse SO₂ through high chimneys.

Locally the gauge at Horns Cross (Stone) had the lowest winter readings which was no doubt associated with the sparseness of the housing there and perhaps with the fact that the emission from the cement industry is alkaline.

Since the winter of 1962-63 concentrations have been:

Winter	1962-63	SO ₂ 1963-64	1964-65	1965-66	1966-67	1967-68
	microgrammes per cubic metre					
Swanley I Code B3	182	141	169	124	120	N
Stone I Horns Cross Code X	143	110	N	84	67	75
Northfleet 5 Code X	190	125	164	152	127	126
Dartford Code D2	256	N	225	181	173	202
Islington I Code A2	326	322	297	278	231	232
Sheffield 60 (Redmires) Code O1	115	94	93	84	65	87
Degree days	4111	3574	3296	3111	2880	3201

Smoke/
SO₂
ratio

In warm weather the heat of the ground expands the adjacent polluted air, gives it buoyancy causing it to rise, disperse and be replaced by air from elsewhere. Thus dilution and dispersal of pollution is related to temperature and if we wish to follow the trend of pollution we should use an index which is as far as possible unaffected by season.

One substantial portion of pollution is emitted by industry, is constant and is mainly SO₂, The other substantial portion is from domestic coal fires, is variable and contains more smoke than SO₂. The weather decides how much pollution is contained in air drawn into each gauge. The variable domestic pollution determines the proportions of the constituents of the mixture that enters. Thus the smoke/SO₂ ratio gives us an index of domestic coal-burning pollution less influenced by weather than the absolute measurements. In Appendix VII this is further explained.

In this theoretical exercise the ratios for the Swanley gauge for example suggest that its environment up to 1967 in the periods April to September contained about 25% domestic coal-fired pollution and in the periods October to March contained about 40% domestic coal-fired pollution.

Each gauge records the ratio produced by the blend of pollution pertaining in its vicinity. The relatively high ratio at Stone, Horns Cross is largely due to low acidity.

An incidental feature of the Smoke/SO₂ ratio is the hunch that smoke by itself is perhaps harmless, that SO₂ by itself is harmless in the quantity possible but that when mixed, smoke and SO₂ are harmful and the smaller the ratio the less the capacity for harm.

From 1962-63 winter onwards the ratios have been in keeping with a downward trend.

	Smoke/SO ₂ ratios					
	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
Winter						
Swanley 1	.64	.81	.44	.43	.50	N
Code B3						
Stone 1 Horns Cross	.71	.93	N	.75	.78	.61
Code X						
Northfleet 5	.63	.94	.50	.50	.50	.46
Code X						
Dartford	.57	N	.46	.52	.51	.43
Code D2						
Islington 1	.83	.58	.60	.51	.44	.38
Code A2						
Sheffield 60	.80	.76	.63	.61	.58	.49
(Redmires)						
Code O1						
Degree Days	4111	3574	3296	3111	2880	3201

Peak
concentra-
tions

There is another aspect to consider which is a feature of the acute exacerbations of the pollution experienced in time of fog. Such times of peak concentrations are hazardous to those with established chest disease i.e. the chest cripples.

After the London fog of 1952 the Medical Officer of Health of the London County Council concluded that "pollution begins to exert a marked effect upon mortality when the daily concentrations reaches 2000 micrograms of smoke and 1150 micrograms of acidic gases per cubic metre of air"... (Scott Med.Off.16.10.59).

From appendix VII it will be seen that from 1963-67 the winters produced no measurements which indicated this degree of pollution.

RADIOACTIVITY

Fall-out Fall-out of radioactive material was of interest during the period
Appendix under review as a result of test explosions in the Arctic in 1958 and 1961,
VI in the Arctic and Pacific in 1962, and in China in 1967.

During this period the Agricultural Research Council Radiobiological Laboratory kept under observation the position in regard to the food of U.K. while in Kent the County Analyst kept local food supplies under observation. Iodine 131 and strontium 90 were the two radioactive materials which required most attention. After 1965 it sufficed for routine observation to be continued only on milk.

The radioactivity of iodine 131 is only short lived and this isotope was therefore not a great food problem except for infants dependent on milk at the time of the fall-out. Because of its short life iodine 131 need only be kept under observation for a short period after weapon trials. In 1963 and subsequently no iodine 131 was detected except for an unmeasurable trace after the Chinese tests of 1964 and 1965. After the bomb test of 1967 iodine 131 remained below the limit of detection. On Sr. to be on the safe side there should be caution should the diet average more than 130 strontium units over a year. At its worst the strontium 90 in milk reached only about 1/6th of this figure.

The graph of strontium 90 in milk is worth attention because the change from a rising curve to one falling back to the original level is a tribute to diplomacy and the test-ban treaty. The steep decline in the content of strontium 90 in milk ceased by the end of 1967. "In earlier years when the rate of fallout was high the contamination of food-stuffs was largely due to the entrapment of the recent deposit on the foodstuffs of man and animals but by the end of 1967 the decreasing rate of fallout had caused dietary contamination to depend predominantly on uptake from the cumulative total in the soil; this will decrease only slowly because of the long half-life of strontium 90 and its slow rate of loss from soil". (Agricultural Research Council report 1968)

THE PLAY OF CHANCE ON LOCAL INDICES

Standard Rates such as death rates vary not only through biological influence
Error but also with the play of chance. When searching for a trend or making a comparison with indices elsewhere it is useful to know the probability with which chance could have produced the feature under examination. A unit of probability is the standard error. The smaller the local authority the greater is the need to take the play of chance into consideration in observing these indices. In this commentary I have endeavoured to use the standard error.

A formula for the standard error is p/\sqrt{e} where p = rate and e = events (e.g. deaths) The following is an example of a calculation of probability:

Deaths	Population	Death %	Standard error
900	90,000	10.0	$10/\sqrt{900} = 0.33$
400	45,000	8.8	$8.8/\sqrt{400} = 0.44$

The standard error of the difference is $\sqrt{.33^2 + .44^2} = 1.55$. The difference is divided by its standard error $1.2/.55 = 2.19$. The figure 2.19 is used for reference to a table from which the following is an extract.

Difference :- S.E. of difference	Probability of difference being produced by chance
1.28	.2 = 20%
1.96	.05 = 5%
2.33	.02 = 2%
2.58	.01 = 1%
3.29	.001 = 0.1%

The probability with which the above difference could be produced by chance is .° between .05 and .02 i.e. $.02 < P < .05$. The difference is statistically significant at the 5% level.

RATES BASED ON SMALL NUMBERS.



“ The attention of Medical Officers of Health is, however, called to the excessive importance sometimes attached to rates, e.g., of infant mortality which may be based on very small numbers, e.g., less than 10 deaths. Where such rates are published in the Report, it is suggested that the actual numbers concerned should always be shown and that attention should be drawn to the fact that comparisons with other areas or with earlier years may have little statistical significance; it is preferable in commenting on changes from previous years, to refer to the absolute numbers involved.”

Ministry of Health Circular 42/51.

DARTFORD RURAL DISTRICT
TABLE I - SOCIAL CONDITIONS

	<u>1966</u>	<u>1967</u>
Area (acres)	34,038	34,038
Mid-year population (R.G.'s estimate)	60,730	61,890
Number of domestic and agricultural dwelling houses assessed to rates 31st March	18,226	18,734
Rateable value 31st March	£2,282,959	£2,357,062
Sum represented by 1d rate 31st March	£8,798	£9,298

POPULATION: Increases in the population are due to natural causes, i.e., excess of births over deaths, and immigration, both being related to new houses built.

Year	1960	1961	1962	1963	1964	1965	1966	1967
Est. mid-year home population	52,380	53,260	55,190	56,320	57,530	58,990	60,730	61,890
Increase on previous year	2,290	880	1,930	1,130	1,210	1,460	1,740	1,160
Natural increase	613	621	627	625	630	609	580	502
Immigration	1,677	254	1,303	505	580	851	1,160	658
Houses built	561	667	406	409	471	722	445	558

AGE COMPARABILITY FACTORS: When local crude birth and death rates are multiplied by the area comparability factors they are comparable with the rate for England and Wales or with the adjusted rate for any other area. The factors for the births (governed by the proportion of women aged 18-44 years) and for deaths (governed by the proportions of all age groups) have been as follows:-

Year	1960	1961	1962	1963	1964	1965	1966	1967
Births	0.96	0.96	0.96	0.88	0.88	0.88	0.88	0.88
Deaths	1.16	1.10	1.14	1.10	1.10	1.09	1.06	1.05

INDICATORS OF CERTAIN SOCIAL CONDITIONS:

Cases dealt with by the N.S.P.C.C.	1964	1965	1966	1967
Children affected	77	97	80	61
Neglect	14	21	18	14
Assault/ill treatment	6	2	3	1
Beyond control	1	1	-	-
Advice/aid sought	9	9	8	4
Abandoned	1	1	-	-
Moral danger	-	1	-	-

Unemployed (combined figures for Rural District and Dartford Borough)

	1964	1965	1966	1967
Men	191	140	323	425
Women	40	32	36	33

Illegitimate birth rate for 1,000 live births:

Dartford Rural District	37	44	54	42
Dartford Borough	55	50	58	72
Northfleet Urban District Council	51	39	55	44
Swanscombe Urban District Council	56	34	24	66
England and Wales	72	77	79	84
Kent A.C.	62	68	67	72

TABLE I - (continued) Dartford Rural District

POPULATION OF YOUNG PERSONS. A guide is necessary to the young population in the district in order that we may form an idea from vaccinations done of the proportion who have been given immunity to certain diseases. A rough estimate can be made from the births which have occurred in the district in the past. This assumes a stable population and does not take into account deaths after one year of age or the balance of those coming into the district over those leaving.

Age Dec.31st 1966	Age 1967	Births Year	Number	Infants deaths	Approx. Population Age Dec.1966	Infants Surviving to 1 year	Approx. Population Age Dec.1967
-1	0	1967	1099	22		1077	
0	1	1966	1176	19		1157	
1	2	1965	1172	13		1159	
2	3	1964	1199	20	0 - 4 years	1179	0 - 4 years
3	4	1963	1203	20	= 5846	1183	= 5755
4	5	1962	1187	19		1168	
5	6	1961	1159	17		1142	
6	7	1960	1068	23		1045	
7	8	1959	979	11	5 - 11 years	968	5 - 11 years
8	9	1958	941	21	= 6270	920	= 6828
9	10	1957	848	21		827	
10	11	1956	770	12	5 - 15 years	758	5 - 15 years
11	12	1955	627	17	= 8436	610	= 9041
12	13	1954	586	12		574	
13	14	1953	539	7		532	
14	15	1952	514	17	12 - 15 years	497	12 - 15 years
15	16	1951	576	13	= 2166	563	= 2213
16	17	1950	545	17		528	
17	18	1949	565	28	16 - 18 years	537	16 - 18 years
18	19	1948	631	19	= 1677	612	= 1628
19	20	1947	752	25		727	

Population of children aged 5 - 11 years

(i)	Dec.31st	Birth years	Est.population
	1963	1952-58	4718
	1964	1953-59	5189
	1965	1954-60	5660
	1966	1955-61	6270
	1967	1956-62	6828
(ii)	aged 5 - 14 years		
	1967	1953-62	8544

NATURAL INCREASE

	Births	Deaths	Natural increase	Population	Rate of natural increase per 1000 population
1956	770	457	313	43,940	7.3
1957	848	486	362	45,810	8.0
1958	941	493	448	47,660	9.4
1959	979	483	496	50,090	9.9
1960	1068	455	613	52,380	11.7
1961	1159	538	621	53,260	11.6
1962	1187	560	627	55,190	11.3
1963	1203	578	625	56,320	11.0
1964	1199	569	630	57,530	10.9
1965	1172	563	609	58,990	10.3
1966	1176	596	580	60,730	9.5
1967	1099	597	502	61,890	8.1

TABLE II - BIRTHS & DEATHS

Dartford R.D.

	1966			1967		
	M	F	Persons	M	F	Persons
Live Births: Legitimate	577	536	1113	579	469	1048
Illegitimate	27	36	63	25	26	51
	<u>604</u>	<u>572</u>	<u>1176</u>	<u>604</u>	<u>495</u>	<u>1099</u>
Deaths from all causes:	308	291	599	306	294	600
Deaths from pregnancy, childbirth, abortion	-	2	2	-	-	-
Still Births: Legitimate	4	7	11	10	7	17
Illegitimate	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>
	<u>4</u>	<u>8</u>	<u>12</u>	<u>11</u>	<u>8</u>	<u>19</u>
Infant deaths by age:						
0 - 6 days Legitimate	4	6	10	10	4	14
Illegitimate	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>-</u>	<u>1</u>
	<u>5</u>	<u>7</u>	<u>12</u>	<u>11</u>	<u>4</u>	<u>15</u>
7 -27 days Legitimate	-	-	-	-	1	1
Illegitimate	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>1</u>
	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>1</u>
28 -364 days Legitimate	3	3	6	3	3	6
Illegitimate	<u>1</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>
	<u>4</u>	<u>3</u>	<u>7</u>	<u>3</u>	<u>3</u>	<u>6</u>
Total under 1 year:						
Legitimate	7	9	16	13	8	21
Illegitimate	<u>2</u>	<u>1</u>	<u>3</u>	<u>1</u>	<u>-</u>	<u>1</u>
	<u>9</u>	<u>10</u>	<u>19</u>	<u>14</u>	<u>8</u>	<u>22</u>

Rates per 1,000 Home Population

	Dartford R.D.		England & Wales	
	1966	1967	1966	1967
Crude live birth rate	19.4	17.8	17.7	17.2
Crude live birth rate adjusted by comparability factor	17.0	15.7	17.7	17.2
Crude death rate	9.8	9.7	11.7	11.2
Crude death rate adjusted by comparability figure	10.4	10.2	11.7	11.2
<u>Rates per 1,000 live and stillbirths</u>				
Maternal death rate	1.7*	0.0*	0.26	0.20
Stillbirth rate	10.1	16.1	15.3	14.8
Perinatal death rate (s.b. & deaths 0 - 6 days)	20.2	28.8	26.3	25.4
<u>Rates per 1,000 Live Births</u>				
Early neonatal death rate (deaths 0 - 6 days)	10.2	13.7	11.1	10.8
Neonatal death rate (deaths 0 - 27 days)	10.2	14.6	12.9	12.5
Infant death rate (deaths 0 - 364 days)	16.2	20.0	19.0	18.3

* The last such death was in 1963. See table VIIh

TABLE IIIA - CAUSES OF DEATH ACCORDING TO AGE

Registrar General's Return

1966 Dartford R.D.

Persons	All ages	Under 4 wks	4 wks - 11 mths	1 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +	Main causes
All causes	599	12	7	3	8	5	7	18	46	91	144	258	
Tuberculosis, respiratory	3	-	-	-	-	-	-	-	1	-	1	1	
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	
Syphilitic disease	1	-	-	-	-	-	-	-	1	-	-	-	
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-	
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-	
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	
Measles	1	-	-	1	-	-	-	-	-	-	-	-	
Other infective and parasitic diseases	-	-	-	-	-	-	-	-	-	-	-	-	
Malignant neoplasm, stomach	17	-	-	-	-	-	-	-	1	2	12	2)	
Malignant neoplasm, lung bronchus	28	-	-	-	-	-	-	2	7	8	6	5)	
Malignant neoplasm, breast	9	-	-	-	-	-	-	1	1	1	4	2)	119
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	-	1	1	1)	
Other malignant and lymphatic neoplasms	59	-	-	-	-	1	1	4	5	14	14	20)	
Leukaemia, aleukaemia	3	-	-	-	1	-	-	-	1	1	-	-	
Diabetes	5	-	-	-	1	-	-	-	-	1	1	2	
Vascular lesions of nervous system	76	-	-	-	1	-	-	1	4	7	13	50)	76
Coronary disease, angina	114	-	-	-	-	-	-	3	10	22	39	40)	
Hypertension with heart disease	6	-	-	-	-	-	-	-	-	-	2	4)	
Other heart disease	54	-	-	-	-	-	1	-	2	6	10	35)	204
Other circulatory disease	30	-	-	-	-	-	-	-	1	3	7	19)	
Influenza	10	-	-	-	-	-	-	-	-	-	3	7)	
Pneumonia	56	-	3	-	1	-	1	1	2	5	11	32)	
Bronchitis	41	-	-	-	-	-	-	1	4	8	10	18)	113
Other diseases of the respiratory system	6	-	-	-	-	-	-	-	-	3	2	1)	
Ulcer of stomach and duodenum	4	-	-	-	-	-	-	-	-	-	1	3	
Gastritis, enteritis and diarrhoea	3	-	-	-	-	-	-	-	-	1	-	2	
Nephritis and nephrosis	2	-	-	-	-	-	-	-	-	-	1	1	
Hyperplasia of prostate	1	-	-	-	-	-	-	-	-	-	-	1	
Pregnancy, childbirth & abortion	2	-	-	-	-	-	-	2	-	-	-	-	
Congenital malformations	5	1	1	-	2	1	-	-	-	-	-	-	
Other defined and ill-defined diseases	44	11	3	1	1	-	2	1	5	4	5	11	
Motor vehicle accidents	7	-	-	-	1	2	2	1	-	1	-	-	
All other accidents	5	-	-	1	-	-	-	-	1	2	-	1	
Suicide	3	-	-	-	-	-	-	1	-	1	1	-	
Homicide and operations of war	1	-	-	-	-	1	-	-	-	-	-	-	

TABLE IIIB CAUSES OF DEATH ACCORDING TO AGE

Registrar General's Return

1967 Dartford R.D.

	All ages	Under 4 wks	4 wks - 11 mths	1 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +
<u>Persons</u>												
All causes	600	16	6	2	4	7	8	17	36	84	154	266
Tuberculosis, respiratory	1	-	-	-	-	-	-	-	-	1	-	-
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	1	-	-	-	-	-	-	-	-	-	1	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	1	-	-	-	-	-	-	1	-	-	-	-
Malignant neoplasm, stomach	11	-	-	-	-	-	-	-	-	3	5	3
Malignant neoplasm, lung bronchus	37	-	-	-	-	-	-	-	7	10	16	4
Malignant neoplasm, breast	12	-	-	-	-	-	-	-	1	3	3	5
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	1	-	1	1
Other malignant and lymphatic neoplasms	66	-	-	-	-	1	5	5	5	12	22	21
Leukaemia, aleukaemia	5	-	-	1	1	-	-	-	-	1	-	2
Diabetes	3	-	-	-	-	-	-	-	-	-	-	3
Vascular lesions of nervous system	67	-	-	-	1	-	-	-	1	7	19	39
Coronary disease, angina	141	-	-	-	-	-	1	5	12	21	40	62
Hypertension with heart disease	8	-	-	-	-	-	-	-	-	2	1	5
Other heart disease	34	-	-	-	-	-	-	-	-	1	9	24
Other circulatory disease	23	-	-	-	-	-	1	-	1	4	6	11
Influenza	6	-	-	-	-	-	-	-	-	-	1	5
Pneumonia	58	1	1	-	-	1	1	-	1	5	13	35
Bronchitis	35	-	2	-	-	-	-	-	2	5	6	20
Other diseases of the respiratory system	5	-	2	-	-	-	-	-	-	-	3	-
Ulcer of stomach and duodenum	5	-	-	-	-	-	-	-	1	1	1	2
Gastritis, enteritis & diarrhoea	4	1	-	-	-	-	-	-	1	-	-	2
Nephritis and nephrosis	2	-	-	-	-	-	-	-	-	-	2	-
Pregnancy, childbirth & abortion	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	5	1	-	1	1	1	-	-	-	-	-	1
Other defined and ill-defined diseases	50	13	1	-	-	2	2	3	1	4	4	20
Motor vehicle accidents	4	-	-	-	1	1	-	1	-	-	-	1
All other accidents	6	-	-	-	-	2	2	-	-	1	1	-
Suicide	7	-	-	-	-	-	-	2	2	3	-	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-

TABLE IIIC - CAUSES OF DEATH ACCORDING TO AGE AND SEX

Registrar General's Return

1966 Dartford R.D.

	All ages	Under 4 wks	4 wks-11 mths	1 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +	Main causes
<u>Males</u>													
All causes	308	5	4	2	7	3	5	12	31	57	84	98	
Tuberculosis, respiratory	2	-	-	-	-	-	-	-	-	-	1	1	
Syphilitic disease	1	-	-	-	-	-	-	-	1	-	-	-	
Malignant neoplasm, stomach	11	-	-	-	-	-	-	-	1	2	8	-	}
Malignant neoplasm, lung bronchus	20	-	-	-	-	-	-	2	4	5	5	4	
Other malignant and lymphatic neoplasms	37	-	-	-	1	-	-	3	3	9	9	12	
Leukaemia, aleukaemia	1	-	-	-	-	-	-	-	1	-	-	-	
Diabetes	2	-	-	-	1	-	-	-	-	-	1	-	
Vascular lesions of nervous system	28	-	-	-	1	-	-	1	2	4	6	14	}
Coronary disease, angina	64	-	-	-	-	-	-	2	10	17	23	12	
Hypertension with heart disease	2	-	-	-	-	-	-	-	-	-	-	2	
Other heart disease	22	-	-	-	-	-	-	-	2	1	5	14	
Other circulatory disease	12	-	-	-	-	-	-	-	-	-	5	7	}
Influenza	6	-	-	-	-	-	-	-	-	-	3	3	
Pneumonia	24	-	2	-	1	-	1	1	1	4	5	9	
Bronchitis	29	-	-	-	-	-	-	1	2	6	8	12	
Other diseases of the resp. system	5	-	-	-	-	-	-	-	-	3	2	-	}
Ulcer of stomach and duodenum	3	-	-	-	-	-	-	-	-	-	-	3	
Nephritis and nephrosis	1	-	-	-	-	-	-	-	-	-	1	-	
Hyperplasia of prostate	1	-	-	-	-	-	-	-	-	-	-	1	
Congenital malformations	4	-	1	1	2	-	-	-	-	-	-	-	
Other def. and ill-def. diseases	21	5	1	-	1	-	2	1	3	3	1	4	
Motor vehicle accidents	7	-	-	-	1	2	2	1	-	1	-	-	
All other accidents	4	-	-	1	-	-	-	-	1	2	-	-	
Suicide	1	-	-	-	-	-	-	-	-	-	1	-	
<u>Females</u>													
All causes	291	7	3	1	1	2	2	6	15	34	60	160	
Tuberculosis, respiratory	1	-	-	-	-	-	-	-	1	-	-	-	
Measles	1	-	-	1	-	-	-	-	-	-	-	-	
Malignant neoplasm, stomach	6	-	-	-	-	-	-	-	-	-	4	2	}
Malignant neoplasm, lung bronchus	8	-	-	-	-	-	-	-	3	3	1	1	
Malignant neoplasm, breast	9	-	-	-	-	-	-	1	1	1	4	2	
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	-	1	1	1	
Other malignant and lymphatic neoplasms	22	-	-	-	-	-	1	1	2	5	5	8	}
Leukaemia, aleukaemia	2	-	-	-	1	-	-	-	-	1	-	-	
Diabetes	3	-	-	-	-	-	-	-	-	1	-	2	
Vascular lesions of nervous system	48	-	-	-	-	-	-	-	2	3	7	36	
Coronary disease, angina	50	-	-	-	-	-	-	1	-	5	16	28	}
Hypertension with heart disease	4	-	-	-	-	-	-	-	-	-	2	2	
Other heart disease	32	-	-	-	-	-	1	-	-	5	5	21	
Other circulatory disease	18	-	-	-	-	-	-	-	1	3	2	12	
Influenza	4	-	-	-	-	-	-	-	-	-	-	4	}
Pneumonia	32	-	1	-	-	-	-	-	1	1	6	23	
Bronchitis	12	-	-	-	-	-	-	-	2	2	2	6	
Other diseases of resp. system	1	-	-	-	-	-	-	-	-	-	-	1	
Ulcer of stomach and duodenum	1	-	-	-	-	-	-	-	-	-	1	-	
Gastritis, enteritis & diarrhoea	3	-	-	-	-	-	-	-	-	1	-	2	
Nephritis and nephrosis	1	-	-	-	-	-	-	-	-	-	-	1	
Pregnancy, childbirth & abortion	2	-	-	-	-	-	-	2	-	-	-	-	
Congenital malformations	2	1	-	-	-	1	-	-	-	-	-	-	
Other def. and ill-def. diseases	22	6	2	-	-	-	-	-	2	1	4	7	
All other accidents	1	-	-	-	-	-	-	-	-	-	-	1	
Suicide	2	-	-	-	-	-	-	1	-	1	-	-	
Homicide and operations of war	1	-	-	-	-	1	-	-	-	-	-	-	

TABLE IIID - CAUSES OF DEATH ACCORDING TO AGE AND SEX

Registrar General's Return

1967 Dartford R.D.

	All ages	Under 4 wks	4 wks-11 mths	1 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +	Main causes
<u>Males</u>													
All causes	306	11	3	1	3	6	6	9	24	58	82	103	
Tuberculosis, respiratory	1	-	-	-	-	-	-	-	-	1	-	-	
Syphilitic disease	1	-	-	-	-	-	-	-	-	-	1	-	
Malignant neoplasm, stomach	8	-	-	-	-	-	-	-	-	3	5	-	
Malignant neoplasm, lung bronchus	30	-	-	-	-	-	-	-	6	7	13	4	
Other malignant and lymphatic neoplasms	31	-	-	-	-	-	1	2	2	7	10	9	73
Leukaemia, aleukaemia	4	-	-	1	1	-	-	-	-	1	-	1	
Diabetes	1	-	-	-	-	-	-	-	-	-	-	1	
Vascular lesions of nervous system	25	-	-	-	-	-	-	-	-	5	7	13	25
Coronary disease, angina	80	-	-	-	-	-	1	4	11	17	19	28	
Hypertension with heart disease	4	-	-	-	-	-	-	-	-	2	1	1	107
Other heart disease	11	-	-	-	-	-	-	-	-	1	3	7	
Other circulatory disease	12	-	-	-	-	-	-	-	1	1	4	6	
Pneumonia	30	-	-	-	-	1	1	-	1	3	8	16	
Bronchitis	18	-	1	-	-	-	-	-	1	2	4	10	52
Other diseases of the resp. system	4	-	1	-	-	-	-	-	-	-	3	-	
Ulcer of stomach and duodenum	2	-	-	-	-	-	-	-	-	1	-	1	
Nephritis and nephrosis	2	-	-	-	-	-	-	-	-	-	2	-	
Congenital malformations	2	-	-	-	1	1	-	-	-	-	-	-	
Other def. and ill-def. diseases	28	11	1	-	-	1	1	2	-	4	2	6	
Motor vehicle accidents	2	-	-	-	1	1	-	-	-	-	-	-	
All other accidents	5	-	-	-	-	2	2	-	-	1	-	-	
Suicide	5	-	-	-	-	-	-	1	2	2	-	-	
<u>Females</u>													
All causes	294	5	3	1	1	1	2	8	12	26	72	163	
Other infective and parasitic dis.	1	-	-	-	-	-	-	1	-	-	-	-	
Malignant neoplasm, stomach	3	-	-	-	-	-	-	-	-	-	-	3	
Malignant neoplasm, lung bronchus	7	-	-	-	-	-	-	-	1	3	3	-	
Malignant neoplasm, breast	12	-	-	-	-	-	-	-	1	3	3	5	
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	1	-	1	1	61
Other malignant and lymphatic neoplasms	35	-	-	-	-	-	-	3	3	5	12	12	
Leukaemia, aleukaemia	1	-	-	-	-	-	-	-	-	-	-	1	
Diabetes	2	-	-	-	-	-	-	-	-	-	-	2	
Vascular lesions of nervous system	42	-	-	-	1	-	-	-	1	2	12	26	42
Coronary disease, angina	61	-	-	-	-	-	-	1	1	4	21	34	
Hypertension with heart disease	4	-	-	-	-	-	-	-	-	-	-	4	
Other heart disease	23	-	-	-	-	-	-	-	-	-	6	17	99
Other circulatory disease	11	-	-	-	-	-	1	-	-	3	2	5	
Influenza	6	-	-	-	-	-	-	-	-	-	1	5	
Pneumonia	28	1	1	-	-	-	-	-	-	2	5	19	
Bronchitis	17	-	1	-	-	-	-	-	1	3	2	10	52
Other diseases of resp. system	1	-	1	-	-	-	-	-	-	-	-	-	
Ulcer of stomach and duodenum	3	-	-	-	-	-	-	-	1	-	1	1	
Gastritis, enteritis & diarrhoea	4	1	-	-	-	-	-	-	1	-	-	2	
Congenital malformations	3	1	-	1	-	-	-	-	-	-	-	1	
Other def. and ill-def. diseases	22	2	-	-	-	1	1	1	1	-	2	14	
Motor vehicle accidents	2	-	-	-	-	-	-	1	-	-	-	1	
All other accidents	1	-	-	-	-	-	-	-	-	-	1	-	
Suicide	2	-	-	-	-	-	-	1	-	1	-	-	

TABLE IVA CAUSES OF DEATH ACCORDING TO AGE

Compiled locally

Dartford Rural District 1966

Persons	All ages	Under 4 weeks	4 wks - 11 mths	1 - 2 yrs	3 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +
All causes	596	14	6	1	1	4	8	7	23	44	94	141	253
Tuberculosis, respiratory	3	-	-	-	-	-	-	-	1	-	1	-	1
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	1	-	-	-	-	-	-	-	-	1	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	-
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	1	-	-	-	1	-	-	-	-	-	-	-	-
Other infective and parasitic dis.	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, stomach	15	-	-	-	-	-	-	-	-	-	4	8	3
Malignant neoplasm, lung bronchus	27	-	-	-	-	-	-	-	2	6	10	4	5
Malignant neoplasm, breast	7	-	-	-	-	-	-	-	1	1	-	4	1
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	-	-	1	1	1
Other malignant and lymphatic neoplasms	59	-	-	-	-	-	1	1	5	5	13	13	21
Leukaemia, aleukaemia	3	-	-	-	-	1	-	-	-	2	-	-	-
Diabetes	5	-	-	-	-	-	1	-	-	-	1	1	2
Vascular lesions of nervous system	75	-	-	-	-	1	-	-	1	3	9	13	48
Coronary disease, angina	115	-	-	-	-	-	-	-	2	11	21	40	41
Hypertension with heart disease	5	-	-	-	-	-	-	-	-	-	-	2	3
Other heart disease	59	-	-	-	-	-	-	1	-	5	5	11	37
Other circulatory disease	28	1	-	-	-	-	-	-	-	2	3	8	14
Influenza	8	-	-	-	-	-	-	-	-	-	-	2	6
Pneumonia	62	-	2	-	-	1	-	-	1	2	8	11	37
Bronchitis	40	1	-	-	-	-	-	-	1	2	7	15	14
Other diseases of respiratory system	2	-	-	-	-	-	-	-	-	-	1	1	-
Ulcer of stomach and duodenum	1	-	-	-	-	-	-	-	-	-	-	-	1
Gastritis, enteritis and diarrhoea	4	-	-	-	-	-	-	-	-	-	-	1	3
Nephritis and nephrosis	2	-	-	-	-	-	-	-	-	-	-	1	1
Hyperplasia of prostate	1	-	-	-	-	-	-	-	-	-	-	-	1
Pregnancy, childbirth & abortion	2	-	-	-	-	-	-	1	1	-	-	-	-
Congenital malformations	5	1	1	-	-	-	3	-	-	-	-	-	-
Other defined and ill-defined diseases	47	11	3	-	-	1	-	2	2	4	7	5	12
Motor vehicle accidents	7	-	-	-	-	-	2	2	2	-	1	-	-
All other accidents	4	-	-	1	-	-	-	-	1	-	1	-	1
Suicide	4	-	-	-	-	-	-	-	3	-	1	-	-
Homicide and operations of war	1	-	-	-	-	-	1	-	-	-	-	-	-

TABLE IVB CAUSES OF DEATH ACCORDING TO AGE

Compiled locally

Dartford Rural District 1967

Persons	All ages	Under 4 weeks	4 wks - 11 mths	1 - 2 yrs	3 - 4 yrs	5 - 14 yrs	15 - 24 yrs	25 - 34 yrs	35 - 44 yrs	45 - 54 yrs	55 - 64 yrs	65 - 74 yrs	75 +
All causes	597	16	6	1	2	5	5	8	17	35	89	162	251
Tuberculosis, respiratory	1	-	-	-	-	-	-	-	-	-	1	-	-
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	1	-	-	-	-	-	-	-	-	-	-	1	-
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	1	-	-	-	-	-	-	-	1	-	-	-	-
Malignant neoplasms, stomach	8	-	-	-	-	-	-	-	-	-	2	4	2
Malignant neoplasm, lung bronchus	33	-	-	-	-	-	-	-	-	5	13	12	3
Malignant neoplasm, breast	12	-	-	-	-	-	-	-	-	1	3	4	4
Malignant neoplasm, uterus	3	-	-	-	-	-	-	-	-	1	-	1	1
Other malignant and lymphatic neoplasms	69	-	-	-	-	-	-	2	5	6	13	20	23
Leukaemia, aleukaemia	4	-	-	1	1	-	-	-	-	-	-	-	2
Diabetes	3	-	-	-	-	-	-	-	-	-	-	1	2
Vascular lesions of nervous system	69	-	-	-	-	1	-	-	-	1	6	20	41
Coronary disease, angina	144	-	-	-	-	-	-	1	5	11	27	43	57
Hypertension with heart disease	10	-	-	-	-	-	-	-	-	1	2	5	2
Other heart disease	38	-	-	-	-	-	1	-	-	-	2	12	23
Other circulatory disease	24	-	-	-	-	-	-	1	-	2	5	6	10
Influenza	6	-	-	-	-	-	-	-	-	-	-	1	5
Pneumonia	60	1	2	-	-	1	-	1	-	1	5	15	34
Bronchitis	31	-	2	-	-	-	-	-	-	2	2	7	18
Other disease of respiratory system	7	-	1	-	-	-	-	-	-	-	1	3	2
Ulcer of stomach and duodenum	2	-	-	-	-	-	-	-	-	1	-	-	1
Gastritis, enteritis and diarrhoea	2	1	-	-	-	-	-	-	-	-	-	-	1
Nephritis and nephrosis	1	-	-	-	-	-	-	-	-	-	-	-	1
Hyperplasia of prostate	-	-	-	-	-	-	-	-	-	-	-	-	-
Pregnancy, childbirth and abortion	-	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	4	1	-	-	1	1	1	-	-	-	-	-	-
Other defined and ill-defined diseases	48	13	1	-	-	-	1	1	3	1	4	6	18
Motor vehicle accidents	4	-	-	-	-	1	1	-	1	-	-	-	1
All other accidents	5	-	-	-	-	1	1	2	-	-	-	1	-
Suicide	7	-	-	-	-	-	-	-	2	2	3	-	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VA - CAUSES OF DEATH

Ages 75 and over
(compiled locally)

Dartford R.D.

1966

MALE

FEMALE

Persons	Total males and females	Total	75-79	80-84	85-89	90-94	Total	75-79	80-84	85-89	90-94	95-99
All causes	253	98	38	31	23	6	155	47	40	44	21	3
Tuberculosis, respiratory	1	1	-	1	-	-	-	-	-	-	-	-
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	-	-	-	-	-	-	-	-	-	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, stomach	3	1	-	1	-	-	2	1	-	1	-	-
Malignant neoplasm, lung bronchus	4	4	3	1	-	-	1	-	-	1	-	-
Malignant neoplasm, breast	1	-	-	-	-	-	1	1	-	-	-	-
Malignant neoplasm, uterus	1	-	-	-	-	-	1	-	-	1	-	-
Other malignant and lymphatic neoplasms	21	13	5	4	4	-	8	3	4	1	-	-
Leukaemia, aleukaemia	-	-	-	-	-	-	-	-	-	-	-	-
Diabetes	2	1	1	-	-	-	1	1	-	-	-	-
Vascular lesions of nervous system	48	13	1	6	5	1	35	10	11	10	4	-
Coronary disease, angina	41	15	9	2	4	-	26	7	8	6	4	1
Hypertension with heart disease	3	1	1	-	-	-	2	2	-	-	-	-
Other heart disease	37	15	2	8	3	2	22	6	4	7	4	1
Other circulatory disease	14	4	1	1	2	-	10	1	3	6	-	-
Influenza	6	3	1	-	2	-	3	-	2	1	-	-
Pneumonia	37	10	7	2	-	1	27	6	4	8	9	-
Bronchitis	14	9	4	3	1	1	5	4	-	1	-	-
Other diseases of resp. system	-	-	-	-	-	-	-	-	-	-	-	-
Ulcer of stomach and duodenum	1	1	-	-	1	-	-	-	-	-	-	-
Gastritis, enteritis and diarrhoea	3	-	-	-	-	-	3	1	1	-	-	1
Nephritis and nephrosis	1	-	-	-	-	-	1	-	1	-	-	-
Hyperplasia of prostate	1	1	-	-	-	1	-	-	-	-	-	-
Pregnancy, childbirth & abortion	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	-	-	-	-	-	-	-	-	-	-	-	-
Other def. and ill-def. diseases	12	6	3	2	1	-	6	3	2	1	-	-
Motor vehicle accidents	-	-	-	-	-	-	-	-	-	-	-	-
All other accidents	1	-	-	-	-	-	1	1	-	-	-	-
Suicide	-	-	-	-	-	-	-	-	-	-	-	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VB CAUSES OF DEATH

Ages 75 and over

(compiled locally)

1967

Dartford R.D.

	Total males and females	MALE						FEMALE					
		Total	75-79	80-84	85-89	90-94	95-99	Total	75-79	80-84	85-89	90-94	95-99
<u>Persons</u>													
All causes	263	101	45	26	22	7	1	162	48	46	36	20	12
Tuberculosis, respiratory	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic diseases	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	-
Whooping cough	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, stomach	2	-	-	-	-	-	-	2	-	-	2	-	-
Malignant neoplasm, lung bronchus	3	3	2	1	-	-	-	-	-	-	-	-	-
Malignant neoplasm, breast	5	-	-	-	-	-	-	5	5	-	-	-	-
Malignant neoplasm, uterus	1	-	-	-	-	-	-	1	1	-	-	-	-
Other malignant and lymphatic neoplasms	24	10	5	-	5	-	-	14	4	5	3	1	1
Leukaemia, aleukaemia	2	1	1	-	-	-	-	1	-	1	-	-	-
Diabetes	3	1	1	-	-	-	-	2	2	-	-	-	-
Vascular lesions of nervous system	43	14	5	5	3	1	-	29	9	9	3	4	4
Coronary disease, angina	61	28	16	6	2	3	1	33	11	12	4	5	1
Hypertension with heart disease	6	1	1	-	-	-	-	5	2	-	1	-	2
Other heart disease	22	8	3	3	1	1	-	14	1	6	4	3	-
Other circulatory disease	10	4	2	2	-	-	-	6	2	2	2	-	-
Influenza	6	-	-	-	-	-	-	6	1	1	4	-	-
Pneumonia	34	17	4	6	6	1	-	17	4	5	6	1	1
Bronchitis	17	8	5	1	2	-	-	9	1	1	4	1	2
Other diseases of resp. system	1	-	-	-	-	-	-	1	-	-	-	1	-
Ulcer of stomach & duodenum	2	1	-	1	-	-	-	1	-	-	1	-	-
Gastritis, enteritis and diarrhoea	1	-	-	-	-	-	-	1	1	-	-	-	-
Nephritis and nephrosis	1	-	-	-	-	-	-	1	-	-	-	-	1
Hyperplasia of prostate	-	-	-	-	-	-	-	-	-	-	-	-	-
Pregnancy, childbirth & abortion	-	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	-	-	-	-	-	-	-	-	-	-	-	-	-
Other defined and ill-defined diseases	18	5	-	1	3	1	-	13	3	4	2	4	-
Motor vehicle accidents	1	-	-	-	-	-	-	1	1	-	-	-	-
All other accidents	-	-	-	-	-	-	-	-	-	-	-	-	-
Suicide	-	-	-	-	-	-	-	-	-	-	-	-	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VI - DEATHS BY QUARTER AND PLACE

Dartford R.D. (compiled locally)

1966		1st qr.	2nd qr.	3rd qr.	4th qr.	Year
Deaths assigned to R.D.		191	126	130	149	596
Mental hospital deaths		<u>26</u>	<u>23</u>	<u>24</u>	<u>14</u>	<u>87</u>
∴ Non-institutional deaths		165	103	106	135	509
1967						
Deaths assigned to R.D.		147	159	131	160	597
Mental hospital deaths		<u>23</u>	<u>21</u>	<u>15</u>	<u>15</u>	<u>74</u>
∴ Non-institutional deaths		124	138	116	145	523
Number of deaths						
Dartford R.D.	1963	194	121	122	136	573
	1964	161	121	123	150	566
	1965	156	118	138	148	560
	1966	191	126	130	149	596
	1967	147	159	131	160	597
Death rates	1963	15.1	9.4	9.5	10.6	11.2
Dartford R.D.	1964	12.3	8.9	10.2	11.4	9.8
adjusted by	1965	11.5	8.7	10.2	10.8	10.4
CF. 1.06	1966	13.3	8.8	9.1	10.4	10.4
CF. 1.05	1967	10.0	10.8	8.9	10.9	10.2
England & Wales	1963	17.0	11.0	9.6	11.2	12.2
	1964	13.2	10.8	9.5	11.6	11.3
	1965	13.3	10.9	9.9	11.9	11.5
	1966	14.6	11.0	9.7	11.6	11.7
	1967	12.2	10.8	9.7	12.2	11.2

NON-INSTITUTIONAL DEATHS BY PLACE OF OCCURRENCE

1966									
All ages	M	F	M	F	M	F	M	F	P
Home	23	21	9	14	11	11	17	11	117
Communal home	3	6	4	3	2	3	2	11	34
Hospital	70	41	32	41	42	35	52	41	354
Elsewhere	1	-	-	-	2	-	1	-	4
	97	68	45	58	57	49	72	63	509
Aged 75+									
Home	5	12	3	7	1	4	6	4	42
Communal home	2	4	4	3	1	2	1	9	26
Hospital	25	23	7	21	13	17	16	17	139
Elsewhere	-	-	-	-	-	-	-	-	-
	32	39	14	31	15	23	23	30	207

NON-INSTITUTIONAL DEATHS AS PERCENTAGE OF ALL DEATHS

All ages									
Home	24%	31%	20%	24%	19%	22%	24%	17%	23%
Communal home	3%	9%	9%	5%	3%	6%	3%	17%	7%
Hospital	72%	60%	71%	71%	75%	72%	72%	65%	69%
Elsewhere	1%	0%	0%	0%	3%	0%	1%	0%	0%
	100%	100%	100%	100%	100%	100%	100%	99%	99%
Aged 75 +									
Home	16%	31%	22%	22%	19%	22%	26%	13%	20%
Communal home	6%	8%	28%	9%	7%	6%	4%	30%	13%
Hospital	78%	61%	50%	69%	74%	72%	70%	57%	67%
Elsewhere	0%	0%	0%	0%	0%	0%	0%	0%	0%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Communal home = "Part III" residential accommodation provided by Kent County Council and one home provided by Private Enterprise

TABLE VI - DEATHS BY QUARTER AND PLACE (continued)

Dartford R.D. (compiled locally)

NON-INSTITUTIONAL DEATHS BY PLACE OF OCCURRENCE

<u>1967</u>	1st qr.		2nd qr.		3rd qr.		4th qr.		Year
All ages	M	F	M	F	M	F	M	F	
Home	23	19	19	23	18	13	26	14	155
Communal home	1	6	2	6	1	8	3	14	41
Hospital	44	31	49	38	33	43	49	39	326
Elsewhere	-	-	1	-	-	-	-	-	-
	68	56	71	67	52	64	78	67	523
Aged 75+									
Home	7	6	6	9	7	7	7	6	55
Communal home	1	6	2	4	1	8	1	12	35
Hospital	22	28	12	15	11	15	19	24	146
Elsewhere	-	-	-	-	-	-	-	-	-
	30	40	20	28	19	30	27	42	236

NON-INSTITUTIONAL DEATHS AS PERCENTAGE OF ALL DEATHS

All ages									
Home	34%	34%	27%	34%	35%	20%	33%	21%	30%
Communal home	1%	11%	3%	9%	2%	13%	4%	21%	8%
Hospital	65%	55%	69%	57%	63%	67%	63%	58%	62%
Elsewhere	0%	0%	1%	0%	0%	0%	0%	0%	0%
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Aged 75+									
Home	23%	15%	30%	32%	37%	23%	26%	14%	23%
Communal home	3%	15%	10%	15%	6%	27%	4%	29%	15%
Hospital	74%	70%	60%	53%	57%	50%	70%	57%	62%
Elsewhere	-	-	-	-	-	-	-	-	-
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Deaths in hospital

<u>1966</u>	Dartford Town	Dartford R.D.	Northfleet U.D.
All ages	74%	69%	51%
Aged 75+	80%	67%	43%
<u>1967</u>			
All ages	74%	62%	51%
Aged 75+	75%	62%	47%

Deaths at ages of 65 and over as percentage of all deaths at all ages (R.G.'s return)

	65 to 74				75 and over			
	Dartford R.D.		England & Wales		Dartford R.D.		England & Wales	
1964	137	24%		25%	257	45%		42%
1965	130	23%		26%	255	45%		43%
1966	144	24%		26%	258	43%		44%
1967	154	26%		26%	266	44%		43%
	Dartford Town		Northfleet		Dartford Town		Northfleet	
	local figures		U.D.		U.D.		U.D.	
1964	110	25%	55	26%	23	30%	199	44%
1965	115	26%	59	28%	18	27%	176	40%
1966	122	27%	65	26%	21	27%	194	42%
1967	108	28%	68	31%	25	28%	162	41%
							77	36%
							83	39%
							97	38%
							86	39%
							31	41%
							27	40%
							30	39%
							35	39%

DARTFORD RURAL DISTRICT

TABLE VIIa MAIN CAUSES OF DEATH by age and percentage (i)

	All causes	Main causes	Other causes	(410-468) Circulatory disease	(140-205) Cancer	(330-334) Vasc.les. C.N.S.	763 (470-527) Resp. diseases
England and Wales							
1965	549,379	457,845	91,534	206,180	106,338	78,149	67,178
%	100%	83%	17%	38%	19%	14%	12%
1966	563,624	471,863	91,761	207,924	108,158	78,824	76,957
%	100%	83%	17%	37%	19%	14%	13%
1967	542,516	455,476	87,040	201,897	110,072	77,147	66,360
%	100%	84%	16%	37%	20%	14%	12%
Dartford R.D. (Registrar General's figures)							
1965	563	471	92	200	99	71	101
%	100%	84%	16%	35%	18%	13%	18%
1966	599	512	87	204	119	76	113
%	100%	87%	13%	35%	20%	13%	19%
1967	600	511	89	206	134	67	104
%	100%	85%	15%	34%	22%	11%	17%
Dartford R.D. By quarters (local figures) 1966							
1966							
Aged 0-74 years							
1st.qr.	103	90	13	41	21	10	18
2nd qr.	67	50	17	20	16	3	11
3rd qr.	84	66	18	23	25	8	10
4th qr.	88	72	16	28	22	6	16
Year	<u>342</u>	<u>278</u>	<u>64</u>	<u>112</u>	<u>84</u>	<u>27</u>	<u>55</u>
Aged 75 +							
1st qr.	86	85	1	39	5	15	26
2nd qr.	60	56	4	20	7	14	15
3rd qr.	46	38	8	14	9	11	4
4th qr.	61	52	9	22	10	8	12
Year	<u>253</u>	<u>231</u>	<u>22</u>	<u>95</u>	<u>31</u>	<u>48</u>	<u>57</u>
All ages							
1st qr.	189	175	14	80	26	25	44
2nd qr.	127	106	21	40	23	17	26
3rd qr.	130	104	26	37	34	19	14
4th qr.	149	124	25	50	32	14	28
Year	<u>595</u>	<u>509</u>	<u>86</u>	<u>207</u>	<u>115</u>	<u>75</u>	<u>112</u>
Dartford R.D. As percentage of all causes 1966							
Aged 0-74 years							
1st qr.	100%	87%	13%	40%	20%	10%	17%
2nd qr.	100%	75%	25%	30%	24%	5%	16%
3rd qr.	100%	78%	22%	28%	30%	10%	20%
4th qr.	100%	82%	18%	32%	25%	7%	18%
Year	100%	82%	19%	33%	25%	8%	16%
Aged 75 +							
1st qr.	100%	99%	1%	45%	6%	17%	30%
2nd qr.	100%	93%	7%	33%	12%	23%	25%
3rd qr.	100%	82%	18%	30%	20%	24%	8%
4th qr.	100%	85%	15%	36%	16%	13%	20%
Year	100%	91%	9%	38%	12%	19%	22%
All ages							
1st qr.	100%	92%	8%	42%	14%	13%	23%
2nd qr.	100%	84%	16%	32%	18%	13%	21%
3rd qr.	100%	80%	20%	28%	26%	15%	11%
4th qr.	100%	83%	17%	34%	22%	9%	18%
Year	100%	86%	14%	35%	19%	13%	19%

DARTFORD RURAL DISTRICT

TABLE VIIa MAIN CAUSES OF DEATH by age and percentage (continued)

Dartford Rural District. By quarters (local figures) 1967

(i)

	All causes	Main causes	Other causes	(410-468) Circulatory diseases	(140-205) Cancer	(330-334) Vasc.les. C.N.S.	763 (470-527) Resp. diseases
Aged 0-74 years							
1st qr.	87	68	19	37	13	3	15
2nd qr.	100	81	19	31	31	7	12
3rd qr.	77	70	7	28	26	7	9
4th qr.	82	71	11	26	24	11	10
Year	<u>346</u>	<u>290</u>	<u>56</u>	<u>122</u>	<u>94</u>	<u>28</u>	<u>46</u>
Aged 75 +							
1st qr.	60	54	6	26	8	4	16
2nd qr.	59	54	5	23	5	9	17
3rd qr.	54	48	6	22	8	9	9
4th qr.	78	71	7	21	14	19	17
Year	<u>251</u>	<u>227</u>	<u>24</u>	<u>92</u>	<u>35</u>	<u>41</u>	<u>52</u>
All ages							
1st qr.	147	122	25	63	21	7	31
2nd qr.	159	135	24	54	36	16	29
3rd qr.	131	118	13	50	34	16	18
4th qr.	160	142	18	47	38	30	27
Year	<u>597</u>	<u>517</u>	<u>80</u>	<u>214</u>	<u>129</u>	<u>69</u>	<u>105</u>

Dartford Rural District. As percentage of all causes 1967

Aged 0-74 years

1st qr.	100%	78%	22%	43%	15%	3%	17%
2nd qr.	100%	81%	19%	31%	31%	7%	12%
3rd qr.	100%	91%	9%	36%	34%	9%	11%
4th qr.	<u>100%</u>	<u>87%</u>	<u>13%</u>	<u>32%</u>	<u>30%</u>	<u>13%</u>	<u>12%</u>
Year	100%	85%	15%	35%	28%	8%	14%

Aged 75+

1st qr.	100%	90%	10%	43%	13%	7%	27%
2nd qr.	100%	92%	8%	39%	8%	15%	29%
3rd qr.	100%	88%	11%	41%	15%	16%	16%
4th qr.	<u>100%</u>	<u>91%</u>	<u>9%</u>	<u>27%</u>	<u>18%</u>	<u>24%</u>	<u>22%</u>
Year	100%	90%	10%	36%	14%	16%	24%

All ages

1st qr.	100%	83%	17%	43%	14%	3%	21%
2nd qr.	100%	85%	15%	34%	23%	10%	18%
3rd qr.	100%	90%	10%	38%	26%	12%	14%
4th qr.	<u>100%</u>	<u>89%</u>	<u>11%</u>	<u>29%</u>	<u>24%</u>	<u>19%</u>	<u>17%</u>
Year	100%	87%	13%	36%	22%	12%	18%

DARTFORD RURAL DISTRICT

TABLE VIIa MAIN CAUSES OF DEATH by age and percentage(continued)

Distribution of deaths from each main ⁽ⁱⁱ⁾ cause between two age groups as % of all ages

	All causes	Main causes	Other causes	(410-468) Circulatory diseases	(140-205) Cancer	(330-335) Vasc.les. C.N.S.	(470-763) Resp. diseases
Dartford Rural District. By quarters (local figures)							
1966							
Aged 0-74 years							
1st.qr.	55%	52%	93%	51%	81%	40%	41%
2nd qr.	54%	47%	81%	50%	70%	18%	42%
3rd qr.	64%	63%	69%	62%	74%	42%	71%
4th qr.	59%	58%	64%	56%	69%	43%	57%
Year	57%	54%	74%	54%	73%	37%	49%
Aged 75+							
1st qr.	47%	48%	7%	49%	19%	60%	59%
2nd qr.	46%	53%	19%	50%	30%	82%	58%
3rd qr.	36%	37%	31%	38%	26%	58%	29%
4th qr.	41%	42%	36%	44%	31%	57%	43%
Year	43%	46%	26%	46%	27%	63%	51%
1967							
Aged 0-74 years							
1st qr.	60%	56%	76%	58%	62%	43%	48%
2nd qr.	63%	60%	80%	57%	86%	44%	41%
3rd qr.	59%	59%	54%	56%	77%	44%	50%
4th qr.	51%	50%	61%	56%	63%	37%	37%
Year	60%	56%	70%	57%	73%	41%	44%
Aged 75+							
1st qr.	40%	44%	24%	42%	38%	57%	52%
2nd qr.	37%	40%	20%	43%	14%	56%	59%
3rd qr.	41%	41%	46%	44%	23%	56%	50%
4th qr.	49%	50%	39%	44%	37%	63%	63%
Year	40%	44%	30%	43%	27%	59%	56%

Dartford Rural District Deaths from Respiratory Diseases

Deaths during whole years

	Aged 0 - 74 years			Aged 75 and over		
	Respiratory disease	All causes	% Respiratory	Respiratory disease	All causes	% Respiratory
1958	36	282	13%	40	211	19%
1959	32	273	12%	36	210	17%
1960	26	267	10%	26	189	14%
1961	25	286	9%	47	247	19%
1962	40	301	13%	50	257	19%
1963	39	314	12%	46	258	18%
1964	49	309	13%	61	257	23%
1965	47	320	15%	56	246	25%
1966	55	342	16%	57	253	22%
1967	46	346	14%	59	251	24%
Deaths during first quarters						
1958	13	102	13%	20	72	28%
1959	12	80	15%	16	77	21%
1960	12	71	17%	8	56	14%
1961	11	72	15%	26	92	28%
1962	21	86	24%	23	86	27%
1963	17	92	17%	26	101	26%
1964	15	84	18%	18	77	23%
1965	18	89	20%	14	67	36%
1966	18	103	17%	26	86	30%
1967	15	87	17%	16	60	27%

TABLE VIIb. MAIN CAUSES OF DEATH. RESPIRATORY DISEASE

Influenza, Pneumonia, Bronchitis and other Respiratory. ICD 470-527,763.

Dartford R.D.							
Year	Population	Deaths	Crude Death Rate	Comp.** factor	Adjusted Death Rate	Deaths All causes	Percentage of all causes
1958	47660	76	1.59	1.06	1.69	493	15.5%
1959	50090	68	1.36	1.07	1.44	483	14.1%
1960	52380	53	1.01	1.16	1.17	455	11.4%
1961	53260	76	1.43	1.10	1.57	538	14.2%
1962	55190	91	1.65	1.14	1.88	560	16.3%
1963	56320	87	1.55	1.10	1.70	578	15.1%
1964	57530	98	1.70	1.10	1.87	569	17.3%
weighted mean							
1958-64	372430	549	1.47	1.11	1.63	3676	15.0%
1965	58990	101	1.72	1.09	1.87	563	18.0%
1966	60730	113	1.86	1.06	1.97	599	18.8%
1967	61890	104	1.69	1.05	1.77	600	17.3%
weighted mean							
1965-67	181610	318	1.75	1.07	1.88	1762	18.0%
1958-67	554040	867	1.57	1.09	1.71	5438	16.0%
London Administrative County*							
1958	3225000	5667	1.76	0.98	1.72	38026	14.9%
1959	3204000	6744	2.10	0.98	2.06	38227	17.6%
1960	3194480	4675	1.46	0.98	1.43	36521	12.8%
1961	3179980	5759	1.84	0.96	1.77	37915	15.2%
1962	3185770	6006	1.92	0.97	1.86	38346	15.8%
1963	3178870	6750	2.15	1.05	2.26	39590	17.2%
1964	3184600	4707	1.48	1.06	1.57	35056	13.4%
Mean							
1958-64	22352700	40308	1.81	1.00	1.81	263681	15.3%
Greater London *							
1965	7948800	11915	1.50	1.01	1.52	87524	13.5%
1966	7913600	12603	1.60	1.01	1.62	87992	14.4%
1967	7880760	11464	1.45	1.01	1.46	85285	13.4%
Mean							
1965-67	23743160	35982	1.52	1.01	1.54	260801	13.8%
England and Wales							
Thousands							
1958	45109	61645	1.38	1.00	1.38	526843	11.6%
1959	45386	67302	1.49	1.00	1.49	527641	13.0%
1960	45755	57687	1.26	1.00	1.26	526268	10.8%
1961	46205	73808	1.60	1.00	1.60	551752	13.3%
1962	46709	73557	1.58	1.00	1.58	557636	13.1%
1963	47028	80743	1.72	1.00	1.72	572868	14.0%
1964	47401	64960	1.37	1.00	1.37	534737	12.1%
1965	47763	67178	1.41	1.00	1.41	549379	12.2%
1966	47985	76957	1.61	1.00	1.61	563624	13.6%
1967	48301	66360	1.38	1.00	1.38	542516	12.2%
Mean							
1958-67	467642	690197	1.48	1.00	1.48	5453264	12.7%

* Excluding pneumonia of newborn ICD 763

** The comparability factor is devised to adjust crude death rates from all causes. It is not quite applicable to rates from one main cause as here but it is better to use it rather than not use it.

TABLE VIIc. MAIN CAUSES OF DEATH. BRONCHITIS
ICD 500-502

Dartford R.D.

Year	Population	Deaths (R.G.)	Crude Death Rate	Comp. factor	Adjusted Death Rate	Deaths All causes	Percentage of all causes
1958	47660	39	0.82	1.06	0.87	493	7.7%
1959	50090	28	0.56	1.07	0.60	483	8.2%
1960	52380	26	0.50	1.16	0.58	455	6.2%
1961	53260	31	0.58	1.10	0.64	538	7.3%
1962	55190	43	0.78	1.14	0.89	560	7.6%
1963	56320	31	0.55	1.10	0.61	578	8.1%
1964	57530	37	0.64	1.10	0.70	569	6.1%
Weighted mean							
1958-64	372430	235	0.63	1.11	0.70	3676	6.4%
1965	58990	38	0.65	1.09	0.71	563	5.6%
1966	60730	41	0.68	1.06	0.72	599	5.6%
1967	61890	35	0.57	1.05	0.60	600	5.4%
Weighted mean							
1965-67	181610	114	0.63	1.07	0.67	1762	6.5%
1958-67	554040	349	0.63	1.09	0.69	5438	6.5%

London Administrative County

1958	3225000	2950	0.91	0.98	0.89	38026	7.7%
1959	3204000	3126	0.98	0.98	0.96	38227	8.2%
1960	3194480	2247	0.67	0.98	0.66	36521	6.2%
1961	3179980	2767	0.87	0.96	0.84	37915	7.3%
1962	3185770	2925	0.92	0.97	0.89	38346	7.6%
1963	3178870	3187	0.99	1.05	1.04	39590	8.1%
1964	3184600	2144	0.67	1.06	0.71	35056	6.1%
Mean							
1958-64	22352700	19346	0.88	1.00	0.88	263681	7.3%

Greater London

1965	7948800	4887	0.62	1.01	0.63	87524	5.6%
1966	7913600	4988	0.63	1.01	0.63	87992	5.6%
1967	7880760	4603	0.58	1.01	0.59	85285	5.4%
Mean							
1965-67	23743160	14478	0.61	1.01	0.62	260801	5.5%

England and Wales

Thousands							
1958	45109	29396	0.65	1.00	0.65	526843	5.6%
1959	45386	29051	0.64	1.00	0.64	527641	5.5%
1960	45755	26485	0.58	1.00	0.58	526268	5.0%
1961	46205	31363	0.68	1.00	0.68	551752	5.7%
1962	46709	33293	0.71	1.00	0.71	557636	6.0%
1963	47028	35332	0.75	1.00	0.75	572868	6.2%
1964	47401	28740	0.61	1.00	0.61	534737	5.4%
1965	47763	29569	0.62	1.00	0.62	549379	5.4%
1966	47985	31862	0.67	1.00	0.67	563624	5.7%
1967	48301	27811	0.58	1.00	0.58	542516	5.1%
Mean							
1958-67	497642	302902	0.61	1.00	0.61	5453264	5.5%

TABLE VIII. MAIN CAUSES OF DEATH
MALIGNANT NEOPLASM, LUNG BRONCHUS ICD 162-163

Dartford R.D.							
Year	Population	(R.G.) Lung Cancer Deaths	Crude Death Rate	Comp. factor	Adjusted Death Rate	Deaths All causes	Percentage of all cause
1958		11	0.23	1.06	0.24		2.2%
1959		26	0.52	1.07	0.56		5.4%
1960	As	23	0.44	1.16	0.51	As	5.1%
1961	Table	17	0.32	1.10	0.35	Table	3.2%
1962	VIIc	28	0.51	1.14	0.58	VIIc	5.0%
1963		26	0.46	1.10	0.51		4.5%
1964		26	0.45	1.10	0.50		4.6%
Weighted mean							
1958-64	372430	157	0.42	1.11	0.46	3676	4.3%
1965	As	25	0.43	1.09	0.47	As	4.4%
1966	Table	28	0.46	1.06	0.49	Table	4.7%
1967	VIIc	37	0.60	1.05	0.63	VIIc	6.2%
Weighted mean							
1965-67	181610	90	0.50	1.07	0.54	1762	5.1%
1958-67	554040	247	0.45	1.09	0.49	5438	4.5%
London Administrative County							
1958		2050	0.64	0.98	0.63		5.4%
1959		2040	0.64	0.98	0.63		5.3%
1960	As	2243	0.70	0.98	0.69	As	6.2%
1961	Table	2120	0.67	0.96	0.64	Table	5.6%
1962	VIIc	2157	0.68	0.97	0.66	VIIc	5.6%
1963		2210	0.70	1.05	0.73		5.6%
1964		2346	0.74	1.06	0.78		6.7%
Mean							
1958-64	22352700	15166	0.68	1.00	0.68	263681	5.8%
Greater London							
1965	As	5566	0.70	1.01	0.71	As	6.4%
1966	Table	5678	0.72	1.01	0.73	Table	6.5%
1967	VIIc	5783	0.73	1.01	0.74	VIIc	6.8%
Mean							
1965-67	23743160	17027	0.72	1.01	0.73	260801	6.5%
England and Wales							
Thousands							
1958		19820	0.44	1.00	0.44		3.8%
1959		21063	0.46	1.00	0.46		4.0%
1960	As	22000	0.48	1.00	0.48	As	4.2%
1961	Table	22810	0.49	1.00	0.49	Table	4.1%
1962	VIIc	23779	0.51	1.00	0.51	VIIc	4.3%
1963		24434	0.52	1.00	0.52		4.2%
1964		25371	0.54	1.00	0.54		4.7%
1965		26398	0.55	1.00	0.55		4.8%
1966		27025	0.56	1.00	0.56		4.8%
1967		28252	0.58	1.00	0.58		5.2%
Mean							
1958-67	467642	240952	0.52	1.00	0.52	5453264	4.8%

TABLE VIIe. MAIN CAUSES OF DEATH
CORONARY DISEASE, ANGINA ICD 420

Dartford R.D.

Year	Population	Coronary Disease Deaths (R.G.)	Crude Death Rate	Comp. factor	Adjusted Death Rate	Deaths All causes	Percentage of all cause
1958		80	1.68	1.06	1.78		16.3%
1959	As	66	1.33	1.07	1.43	As	13.7%
1960	Table	101	1.92	1.16	2.22	Table	22.2%
1961	VIIc	102	1.92	1.10	2.11	VIIc	19.0%
1962		102	1.85	1.14	2.11		18.3%
1963		128	2.29	1.10	2.52		22.2%
1964		112	1.95	1.10	2.15		19.7%
Weighted mean							
1958-64	372430	691	1.86	1.11	2.07	3676	18.9%
1965	As	121	2.05	1.09	2.24	As	21.5%
1966	Table	114	1.88	1.06	1.99	Table	19.1%
1967	VIIc	141	2.28	1.05	2.39	VIIc	23.5%
Weighted mean							
1965-67	181610	376	2.07	1.07	2.21	1762	21.3%
1958-67	554040	1067	1.93	1.09	2.12	5438	19.6%

London Administrative County

1958		5925	1.84	0.98	1.80		15.6%
1959	As	6057	1.89	0.98	1.85	As	15.9%
1960	Table	6468	2.02	0.98	1.98	Table	17.8%
1961	VIIc	6530	2.05	0.96	1.97	VIIc	17.2%
1962		7193	2.26	0.97	2.19		18.8%
1963		7512	2.36	1.05	2.48		19.0%
1964		6799	2.13	1.06	2.26		19.4%
Mean							
1958-64	22352700	46584	2.09	1.00	2.09	263681	17.7%

Greater London

1965	As	18022	2.27	1.01	2.29	As	20.6%
1966	Table	18046	2.28	1.01	2.30	Table	20.5%
1967	VIIc	18118	2.30	1.01	2.32	VIIc	21.3%
Mean							
1965-67	23743160	54186	2.28	1.01	2.30	260801	20.7

England and Wales

Thousands							
1958		84041	1.86	1.00	1.86		15.9%
1959	As	84922	1.87	1.00	1.87		16.1%
1960	Table	91961	2.01	1.00	2.01	As	17.4%
1961	VIIc	95755	2.07	1.00	2.07	Table	17.4%
1962		102478	2.20	1.00	2.20	VIIc	18.4%
1963		107856	2.29	1.00	2.29		18.8%
1964		106290	2.25	1.00	2.25		19.9%
1965		113451	2.38	1.00	2.38		20.7%
1966		114766	2.39	1.00	2.39		20.4%
1967		115292	2.39	1.00	2.39		21.3%
Mean							
1958-67	467642	1019812	2.18	1.00	2.18	5453264	18.7%

TABLE VIIf. MAIN CAUSES OF DEATH
Deaths of Infants under 1 year of age

Age	Cause and ICD No.		1966		1967	
			M	F	M	F
Under 1 day	Post-natal asphyxia without immaturity	762.0	1	2	1	1
	Post-natal asphyxia with immaturity	762.5	-	1	2	-
	Ill-defined disease without immaturity	773.0	-	1*	-	-
	Immaturity unqualified	776.0	2	-	-	-
	Neonatal disorder from disease of mother	769.5	-	-	1	1
	Congenital malformation	759.0	-	-	-	1
	Intracranial injuries at birth	760.0	-	-	1	-
	Haemolytic disease of newborn	770.0	-	-	1	-
	Total		3	4	6	3
1-6 days	Intracranial injury at birth	760.0	1	-	1	-
	Post-natal asphyxia without immaturity	762.0	1	-	1	-
	Post-natal asphyxia with immaturity	762.5	-	1	1	-
	Diseases of pancreas	587.2	-	1	-	-
	Congenital malformation of circ.system	754.2	-	1	-	-
	Pneumonia of newborn	763.0	-	-	-	1
	Haemorrhagic disease of newborn	771.0	-	-	1	-
	Ill-def.disease peculiar to infancy	773.5	-	-	1	-
	Total		2	3	5	1
7-27 days	Diarrhoea of newborn	764.0	-	-	-	1
						1
28-364 days	Post-natal asphyxia without immaturity	762.0	-	1	-	-
	Congenital malformation of digestive sys.	756.2	1	-	-	-
	Anaemia of specified type	292.0	1	-	-	-
	Avitaminoses	286.0	-	1	-	-
	Bronchopneumonia	491.0	2*	1*	-	-
	Unspecified epilepsy	353.3	-	-	1	-
	Pneumonia	491.0	-	-	-	1
	Acute bronchitis	500.0	-	-	1	1*
	Chronic interstitial pneumonia	525.0	-	-	1	1*
	Total		4	3	3	3
Total under 1 year			9	10	14	8

* Death at home. Remainder in hospital

The following notes refer to certain of the above deaths possibly associated with environmental conditions:

1966. Male aged 5 months. Cot death at home. Capillary bronchitis. 4½ 1 at birth by Caesarean section. Thrived up to day of death. Had some loose stools some days before. Good home. Much wanted child. Coroner's case.

Female aged 3 months. Cot death in hospital. Collapse of lungs. Had had blood transfusion sometime previously for intended operation on hare lip, otherwise healthy. Coroner's case.

Male aged 3 months. Capillary bronchitis. Cot death at home. Child of immigrants being fostered. Coroner's case.

1967. Female aged 3 months. Cot death at home. Acute tracheo bronchitis unwillfully neglected. "Prop" feeding. Slept in carry cot. Coroner's case.

Male aged 11 months. Interstitial pulmonary fibrosis. Death in hospital. Home an unauthorised caravan. Not known to H.V. Not a Coroner's case.

Male aged 6 months. Acute tracheo bronchitis and bronchpneumonia. Under treatment for gastroenteritis. Death in hospital. Cared for by daily minder. Presumed immigrant. Coroner's case.

TABLE VIIg. MAIN CAUSES OF DEATH

Stillbirths

ICD No.	Cause	1966		1967		1966/67 Total	% of all Stillbirths	
		M	F	M	F		Dartford R.D.	Eng. & Wales 1966/67
Y								
30.2	Chr. dis. in mother	-	-	1	-	1	3%	3.2%
32.2	Haemorrhage without mention of placenta	2	-	-	-	2	6%	13.5%
36.2	Premature separation of placenta	-	-	-	-	-		
32.3	Toxaemia of pregnancy	-	1	-	-	1		
32.4		-	-	3	-	3	13%	11.7%
34.1	Difficult labour + disprop'n	-	-	-	-	-	0%	2.2%
34.2	Difficult labour + malposition	1	-	-	-	1	3%	2.8%
36.0	Cord condition	1	2	2	3+1*	9	29%	7.9%
37.0	Birth injuries	-	-	-	-	-	0%	1.8%
38.0	Anencephalus	-	1	-	-	1	3%	10.6%
38.1-3	Other malformations N.S.	-	-	-	-	-	0%	5.6%
39.2	Erythroblastosis	-	1	-	-	1	3%	4.4%
39.4	Maceration	1	-	-	1	2	6%	6.1%
						21	67%	69.8%
34.3	Difficulties in labour with abnormal forces	-	-	1*		1	3%	
35.3	Other disease of mother	-	-	1*	-	1	3%	
35.3	Other causes in mother	-	-	1	-	1	3%	
36.1	Placenta praevia	-	-	1	-	1	3%	
38.7	Congenital malformations other	-	-	-	1	1	3%	
39.5	Other ill defined	-	2	-	-	2	6%	
39.6	Causes unspecified	-	-	1	1+1*	2	10%	
						<u>10</u> 31	<u>31%</u> 98%	<u>30.2%</u> 100%

* At home. Remainder in hospital

1964-67

Total births(i.e.live and still-births) Dartford R.D. 4722

ICD No.	Cause of Still-birth	1964-67 Number	Rate % total births		
			RD	95% C.L.*	Eng & Wales
Y					
32.2	Haemorrhage without mention of placental condition	7	1.5	<u>1.1</u>	0.6
36.0	Placental and cord conditions	13	2.7	<u>2.7</u>	4.8
37+39	Foetal conditions	28	5.8	<u>2.2</u>	6.8

* 95% confidence limit

TABLE VII(h) MAIN CAUSES OF DEATH
Deaths from pregnancy, childbirth and abortion
Dartford Rural District

Year	Maternal deaths inc.abortion			Births	Still births	Total births annual	Births since previous death	Mat.deaths per ‰ relevant births	
	Sepsis	Other	Total					R.D.	Eng & Wales
1927	1	4	5	452	4	456		10.96	
1928	2	-	2	529	?	529+		3.78-	4.37
1929*	?	?	?	?	?	?		?	4.30
1930*	?	?	?	?	?	?		?	4.36
1931	1	-	1	456	17	473		2.12	4.11
1932*	?	?	?	?	?	?		?	4.19
1933	1	-	1	439	8	447		2.24	4.52
1934	1	1	2	439	14	453		4.43	4.62
1935	1	1	2	442	21	463		4.32	4.15
1936	1	2	3	454	14	468		6.42	3.86
1937	-	1	1	509	14	523		1.92	3.37
1938	-	2	2	455	19	474		4.23	3.25
1939	-	2	2	522	15	537		3.73	3.12
1940	-	2	2	511	14	525		3.81	2.68
1941	1	2	3	469	18	487		6.16	2.80
1942	-	-	-	543	16	559	1112	1.79	2.48
1943	-	2	2	544	9	553			2.30
1944	-	2	2	577	19	596		3.36	1.93
1945	-	1	1	529	11	540		1.85	1.80
1946	-	2	2	721	13	734		2.73	1.43
1947	1	1	2	752	16	768		2.62	1.18
1948	-	-	-	631	11	742	1321	1.51	1.02
1949	1	1	2	565	14	579			0.97
1950	-	-	-	545	9	554			0.87
1951	-	-	-	576	12	588	2019	0.50	0.76
1952	-	-	-	514	15	529			0.67
1953	-	1	1	539	9	548			0.71
1954	-	-	-	586	9	595			0.65
1955	-	-	-	627	15	642			0.59
1956	-	-	-	770	11	781	3844	0.26	0.52
1957	-	-	-	848	20	868			0.45
1958	-	1	1	941	17	958			0.43
1959	-	-	-	979	13	992			0.38
1960	-	-	-	1068	26	1094			0.39
1961	-	-	-	1159	18	1177	5692	0.18	0.33
1962	-	-	-	1187	19	1206			0.35
1963	-	1	1	1203	20	1223			0.32
1964	-	-	-	1199	24	1223			0.25
1965	-	-	-	1172	21	1193	3604	0.55	0.25
1966	-	2	2	1176	12	1188			0.26
1967	-	-	-	1099	19	1118	To await next case 0.20		

* Unfortunately annual reports for these years are not in our files

TABLE VIII - PREVALENCE OF INFECTIOUS DISEASES

Notifiable Diseases (other than tuberculosis)

Disease	General Population	Total	0-1	1-3	3-5	5-10	10-15	15-25	25-45	45-65+	Age?
<u>1966</u>											
Typhoid fever	-	-	-	-	-	-	-	-	-	-	-
Measles	514	26	128	167	180	4	2	3	-	4	-
Whooping cough	24	1	7	9	7	-	-	-	-	-	-
Scarlet fever	29	-	-	9	16	2	-	2	-	-	-
Pneumonia	-	-	-	-	-	-	-	-	-	-	-
Dysentery	4	1	1	-	1	-	-	1	-	-	-
Food poisoning	4	-	-	-	-	1	-	1	2	-	-
Paratyphoid fever	-	-	-	-	-	-	-	-	-	-	-
		575	28	136	185	204	7	2	7	2	4
<u>1967</u>											
Anthrax	1	-	-	-	-	-	1	-	-	-	-
Typhoid fever	-	-	-	-	-	-	-	-	-	-	-
Measles	1126	84	332	403	291	3	3	2	-	8	-
Whooping cough	37	3	10	5	14	3	1	-	-	1	-
Scarlet fever	12	-	2	6	4	-	-	-	-	-	-
Pneumonia	-	-	-	-	-	-	-	-	-	-	-
Dysentery	4	-	1	-	1	-	-	1	1	-	-
Food poisoning	4	1	1	1	1	-	-	-	-	-	-
		1184	88	346	415	311	6	5	3	1	9

Residential Institutions of more than 100 population

There was none

Measles (according to date of notification)

	November	December	January	February	March	April	Total
1957-1958	-	-	1	-	-	3	4
1958-1959	15	70	113	106	58	32	394
1959-1960	-	2	-	-	-	-	2
1960-1961	11	15	312	528	306	117	1289
1961-1962	2	-	-	-	-	-	2
1962-1963	44	34	65	30	162	232	567
1963-1964	-	-	-	1	1	6	8
1964-1965	36	119	70	318	378	198	1119
1965-1966	-	1	1	7	13	23	45
1966-1967	44	86	314	517	203	31	1195
1967-1968	7	1	3	-	2	1	14

Measles (continued)

<u>1966</u>	Ash	Darenth	Eynsford	Farningham	Fawkham	Hartley	Horton Kirby	West Kingsdown	Longfield	Southfleet	Stone	Sutton-at-Hone	Swanley	Wilmington	Total
January	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
February	-	-	-	-	-	-	-	-	-	-	4	-	-	3	7
March	-	1	-	-	-	-	-	-	-	-	9	-	1	1	12
April	-	2	5	-	-	-	-	-	-	1	1	-	3	11	23
May	-	4	-	-	-	-	-	-	-	-	1	1	1	16	23
June	3	2	1	1	-	-	2	-	-	-	-	7	13	12	41
July	-	7	-	-	-	-	-	-	-	-	1	3	75	5	91
August	-	28	-	-	-	-	-	1	-	-	3	8	70	4	114
September	-	1	1	-	-	-	-	1	-	-	2	4	34	6	49
October	-	-	-	-	-	2	-	-	-	-	4	1	16	-	23
November	-	10	-	1	-	-	-	3	-	-	6	-	15	9	44
December	-	2	-	-	-	-	5	33	-	-	8	1	20	17	86
Total for year	3	57	7	2	-	2	7	38	-	1	40	25	248	84	514

<u>1967</u>															
January	-	13	5	3	-	-	30	19	1	25	66	15	87	50	314
February	1	46	1	12	-	58	24	7	6	36	41	66	159	60	517
March	3	9	-	6	3	56	-	-	20	8	6	12	67	13	203
April	1	6	-	2	-	2	2	-	-	2	1	2	9	4	31
May	-	4	-	-	1	-	2	-	1	-	-	14	12	2	36
June	1	2	-	-	-	-	1	-	-	-	1	-	-	-	5
July	-	-	-	1	-	-	-	1	-	-	2	-	-	1	5
August	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
September	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
October	-	-	-	-	-	-	-	-	-	1	2	-	-	3	6
November	-	-	-	-	-	-	-	-	-	4	-	-	1	-	5
December	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Total for year	6	80	6	24	4	116	59	27	28	77	120	109	336	134	1126

Non-notifiable diseases

The following non-notifiable diseases were reported from schools:

	1966	1967
German measles	10	28
Chicken pox	98	135
Mumps	71	46
Impetigo	2	3
Scabies	1	-
Conjunctivitis	-	1
Jaundice	2	-

TABLE IX - TUBERCULOSIS, 1966 & 1967

(a) RESPIRATORY

Dartford R.D.

NOTIFICATIONS

Year	No.	Year	No.	Year	No.
1959	27	1962	20	1965	8
1960	25	1963	14	1966	12
1961	23	1964	13	1967	4

NOTIFICATIONS BY AGE

1966	Total	0-14	15-19	20-24	25-34	35-44	45-54	55-64	65+
Males	7	1	-	-	-	1	1	1	3
Females	5	-	-	3	-	2	-	-	-
	12	1	-	3	-	3	1	1	3
<hr/>									
1967									
Males	4	-	-	1	-	-	-	1	2
Females	-	-	-	-	-	-	-	-	-
	4	-	-	1	-	-	-	1	2

Of the 12 cases notified in 1966, 3 were infectious, namely, a female age 35 years, housewife, a female aged 24 years, housewife, and a male aged 72 years, retired.

Of the 4 cases notified in 1967 none was known to be infectious. The occupation of a male aged 67 was that of a milk vendor but before we could ascertain whether or not he was infectious he had given up his business and moved out of the district.

NUMBER OF CASES OF RESPIRATORY TUBERCULOSIS ON THE REGISTER

	Male	Female	Persons
Number on register at 31.12.63	272	210	482
31.12.64	272	205	477
31.12.65	262	192	454
31.12.66	248	186	434
31.12.67	242	174	416

CHANGES IN REGISTER

Additions: 1966

New notifications	12
Came into district	12
Restored to register	<u>1</u>
	<u>25</u>

Removals: 1966

Left district	8
Lost sight of	14
Died	5
Recovered	<u>18</u>
	<u>45</u>

Additions: 1967

New notifications	4
Came into district	<u>5</u>
	<u>2</u>

Removals: 1967

Left district	4
Lost sight of	1
Died	3
Recovered	18
Diagnosis not confirmed	<u>1</u>
	<u>27</u>

TABLE IX TUBERCULOSIS
(a) RESPIRATORY (continued)

MASS X-RAY SERVICE 1966

Dartford R.D.

	Over 45 service				Routine Mass X-ray Service				Total		Persons
	Industry		Public		Industry		Public				
	M	F	M	F	M	F	M	F	M	F	
No.X-rayed	-	-	-	-	439*	304*	518	488	957	792	1749
Tuberculosis requiring treatment	-	-	-	-	-	1	1	1	1	2	3
Incidence ‰	-	-	-	-	-	3‰	2‰	2‰	1‰	2‰	1.7‰

NOT PREVIOUSLY X-RAYED (included in above)

No. X-rayed	-	-	-	-	308**	258**	212	289	520	547	1067
Tuberculosis requiring treatment	-	-	-	-	-	1	1	-	1	1	2
Incidence ‰	-	-	-	-	-	4‰	5‰	-	2‰	2‰	1.9‰

* includes 246 males and 282 females at colleges,hospitals,etc.

** includes 208 males and 246 females at colleges,hospitals,etc.

MASS X-RAY SERVICE 1967

No.X-rayed	-	-	-	-	-	-	428	386	428	386	814
Tuberculosis requiring treatment	-	-	-	-	-	-	-	-	-	-	-
Incidence ‰	-	-	-	-	-	-	-	-	-	-	-

NOT PREVIOUSLY X-RAYED (included in above)

No.X-rayed	-	-	-	-	-	-	75	206	75	206	281
Tuberculosis requiring treatment	-	-	-	-	-	-	-	-	-	-	-
Incidence	-	-	-	-	-	-	-	-	-	-	-

1966
Male Female
11 -

PREVIOUSLY KNOWN TUBERCULOSIS CASES FOUND

NON-TUBERCULOSIS CASES FOUND

Respiratory (total of following)	5	2	1	1
carcinoma of bronchus	1	-	-	-
spontaneous pneumothorax	1	-	-	-
plural effusion	1	-	-	-
pneumonitis	2	1	-	-
old pleurisy	-	1	-	-
plural thickening	-	-	1	-
subsegmental atelectosis	-	-	-	1
Cardiovascular	5	3	5	-
Abnormalities requiring no action	4	3	4	-

TABLE IX - TUBERCULOSIS (continued)

(a) RESPIRATORY (continued) Dartford R.D.

DARTFORD CHEST CLINIC: Dartford Rural District provides about one quarter of the population served by the clinic.

	1963	1964	1965	1966	1967
Total persons attending for first time	1,528	1,317	1,384	1,475	1,343
(a) Referred by doctors	1,056	870	722	953	897
(b) Contacts	425	412	696	502	438
(c) From other sources e.g. transfers	47	35	26	20	8
New cases					
(a) Active pulmonary tuberculosis	50	41	23	38	40
(b) Non-pulmonary tuberculosis	10	11	9	10	5
(c) Bronchial neoplasm	34	32	34	51	45
Found to be sputum positive					
(a) New cases	27	18	14	19	20
(b) Old cases	16	16	12	5	7
Total attendances	6,948	6,181	6,133	5,878	5,674
Total individuals attending	3,469	3,078	3,033	2,765	1,918

In addition to the above some 500 conditions other than tuberculosis or cancer were found each year.

TUBERCULOSIS (b) NON-RESPIRATORY

NOTIFICATIONS IN RECENT YEARS

1959	10	1962	2	1965	3
1960	5	1963	1	1966	3
1961	2	1964	2	1967	3

The 3 notifications in 1966 were a male aged 33 with tuberculous neck glands, a female aged 35 with tuberculous neck glands and a female aged 75 with tuberculous lining of the womb.

The 3 notifications of 1967 were a female aged 32 with tuberculous kidney, another female aged 32 with a tuberculous kidney and a male aged 84 with tuberculous neck glands.

NUMBER OF CASES OF NON-PULMONARY TUBERCULOUS ON REGISTER AT DECEMBER 31st.

	Male	Female	Persons		Male	Female	Persons
1958	23	16	39	1963	19	21	40
1959	22	19	41	1964	20	22	42
1960	23	23	46	1965	21	22	43
1961	23	24	47	1966	21	21	42
1962	22	23	45	1967	21	22	43

CHANGES IN REGISTER

Additions:	1966		Removals:	1966
New notifications	<u>3</u>		Recovered	<u>4</u>
	2			4
Additions:	1967		Removals:	1967
New notifications	3		Lost sight	1
Came into district	<u>3</u>		of	
	2		Recovered	<u>1</u>
				2

TABLE IX - TUBERCULOSIS
(c) RESPIRATORY (continued)

DEATHS OF PERSONS SUFFERING FROM TUBERCULOSIS

Dartford R.D.

Persons removed from the tuberculosis register in 1966 and 1967 following death.

Cause of death						
1966						
Year born	Year notified	Sex	Underlying	Contributory	Year died	Infectious when diagnosed
1894	1966	M	a.Pulmonary infarct. b.Venous thrombosis (R.leg)	Bilateral pulmonary tuberculosis	1966	Age 72 Yes
1900	1950	M	a.R.ventricular failure b.Bronchopneumonia	-	1966	66 yes
1923	1948	M	a.Confluent broncho-pneumonia b.Chr.bronchitis	old pul. tuberculosis	1966	43 yes
1918	1939	F	a.Cor pulmonale b.Pul.fibrosis	Pul.tuberculosis	1965 (Dec)	48 yes
1922	1962	F	a.Pul.haemorrhage b.Pul.tuberculosis	-	1966	44 yes
1967						
1902	1963	M	a.Cor.pulmonale b.Chr.bronchitis c.Old pul.tuberculosis	-	1967	65 No
1913	1956	M	a.Coronary thrombosis b.Chr.heart failure c.Chr.bronchitis	Old pul. tuberculosis	1967	54 No
1911	1963	F	a.Bronchopneumonia	Pul.fibrosis secondary to healed pul. tuberculosis	1967	56 Record not available
Deaths from respiratory tuberculosis of persons not on tuberculosis register						
1884	-	M	a.Massive haemoptysis b.Pul.tuberculosis	-	1966	Age 82 ?
1907	-	M	a.Unresolved pneumonia with pul.fibrosis	-	1966	59 ?

TABLE IX (c) TUBERCULOSIS RESPIRATORY (continued)

CAUSES OF DEATH 1958-67. DARTFORD R.D.

Population removed by death from respiratory tuberculosis register 1958-67. Population not on the register

	Respiratory tuberculosis incl. military	Malignant Neoplasm Lung	Coronary disease	Other heart disease	Pneumonia	Bronchitis	Other respiratory disease	All other diseases	All causes
R.D. POPULATION ON REGISTER									
General Public									
Para. I death certificate (underlying cause)	16	8	6	2	2	8	2	8	52
Para. II death certificate (contributory cause)	14	-	1	1	-	3	-	-	
Mentioned elsewhere on death certificate	2	1	1	-	-	-	-	-	
Mental Hospital									
Para. I death certificate (underlying cause)	9	-	1	-	1	-	-	2	13
Para. II death certificate (contributory cause)	3	-	-	-	-	-	-	-	
All persons on register									
Para. I death certificate (underlying cause)	25*	8**	7	2	3	8	2	10	65*
Percentage	39%	12%	11%	3%	5%	12%	3%	14%	99%
R.D. POPULATION NOT ON REGISTER									
Para. I death certificate (underlying cause)	8*	214	1053	539	438	323	50	2727	5352
Percentage	0%	4%	20%	10%	8%	6%	1%	5%	100%

* The removals from the tuberculosis register by death may not occur in the same year as that in which the death was entered on the death register. This means that small inaccuracies creep into comparisons based on the two registers.

** One moved to Northfleet where his death occurred

TABLE X VACCINATIONS Dartford R.D.
(a) Poliomyelitis

Vaccination against poliomyelitis was introduced in 1957 with three doses of dead vaccine by injection as a primary course. In 1962 live vaccine was introduced with a primary course of three doses, a fourth dose of dead or live vaccine being provided for school children under 12 years of age. By 1965 the practice established was to give three oral doses in infancy followed by a fourth oral dose on starting school. Older age groups have also received the vaccine.

For most years the numbers of children under school age receiving primary courses of vaccination have been given to us in age groups each of which consists of those born in a given year. This at first was the original practice for all age groups. For 1961 onwards however the older age groups have covered a wider span of ages and the span of ages in the groups has varied from year to year. This makes presentation and interpretation awkward as will be seen from our statistics of reinforcing doses given below.

(a) Percentage of children who have completed a course of primary vaccinations (3 doses)

Year of birth of cohort	Year of primary vaccination									Est. pop. of cohort	Percentage of completed course	
	1957-1960	1961	1962	1963	1964	1965	1966	1967	1957-1967			
1967								284	284	1077	26%	?
1966							231	728	959	1157	83%	71%
1965						216	736	39	991	1159	86%	75%
1964					210	812	73	16	1111	1179	95%	75%
1963				178	786	63	19	9	1055	1183	89%	
1962			130	743	103	27	20	≤ 8	1031	1168	88%	
1957-61	1789	915	1482	213	58+	50+	13+	≤ 9	4529+	4902	92-94%	
					780	722	75		7107			

Year of birth before	Year of primary vaccination (continued)									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
1957	233	6735	3180	2205	1772	136	4129	22	75	71

For age groups in more detail see previous reports.

(b) Reinforcing vaccinations (4th doses)

Year born	Year of reinforcing vaccination						
	1961	1962	1963	1964	1965	1966	1967
1963				7			42
1962				1			
1961				1			849
1960					838	45	
1959						720	
1958							
1957			569	896			11
1952-56					184	115	
1951	3257						
1950		597					
1949							
1943-48							
	3257	597	569	905	1022	880	902

TABLE X VACCINATIONS
(a) Poliomyelitis (continued)

Table (b) is not easy to interpret. If the reinforcing vaccinations are distributed evenly we get the result shown in table (c). The percentages therein over 100% are of course impossible. They are due to the fact that (i) revaccinations are not evenly distributed throughout the age groups but are done at the younger end of each group, (ii) the population estimates are underestimated through expansion of housing accommodation and newcomers coming into the district.

(c)

Born	Year of reinforcing vaccination							Total re-vaccinated 1961-67	Pop. estimate	% re-vaccinated by 31.12.67
	1961	1962	1963	1964	1965	1966	1967			
1963				7			42	49	1183	4%
1962				1		45	283	329	1168	28%
1961				1	209	240	283	733	1142	64%
1960				71	209	240	283	803	1045	76%
1959				75	211	240	1	527	968	54%
1958			81	75	209	13	1	379	920	41%
1957			81	75	21	13	1	191	827	23%
1956	467	43	81	75	21	13	1	701	758	93%
1955	465	43	81	75	21	13	1	699	610	114%
1954	465	43	81	75	21	13	1	699	574	122%
1953	465	43	82	75	20	13	1	699	532	131%
1952	465	43	82	75	20	13	2	700	497	141%
1951	465	43		75	20	12	2	617	563	110%
1950	465	43		75	20	12		615	528	117%
1949		43		75	20			138	537	26%
1943-48		253						258	3609	7%
	3257	597	569	905	1022	880	902	8132	15461	

If the revaccinations are assumed to have been given to the younger members of the age groups the interpretation may be as in table (d) which entitles us to conclude that a large proportion of the young population have received reinforcing vaccinations.

(d)

Born	Year of reinforcing vaccination							Total re-vaccinated 1961-67	Pop. estimate	% re-vaccinated by 31.12.67
	1961	1962	1963	1964	1965	1966	1967			
1963				7			42	49	1183	4%
1962				1		45	283	329	1168	28%
1961				1	209	240	283	733	1142	63%
1960				71	209	240	283	803	1045	77%
1959				300	211	240	6	757	968	78%
1958				375	209	65	5	654	920	71%
1957			380	150	184	50		764	827	92%
1956	467	43	95					605	758	79%
1955	465	43	94					602	610	98%
1954	465	43						508	574	88%
1953	465	43						508	532	95%
1952	465	25						470	497	95%
1951	465	43						508	563	90%
1950	465	43						508	528	96%
1949		43						43	537	8%
1943-48								271	3609	8%
	3257	597	569	905	1022	880	902	8132	15461	

ENG. & WALES	1965	1966	1967
Vaccination rate for children aged under two years	Figures of vaccination at age percentages are based are not provided.	Figures of vaccination at age percentages are based are not provided.	Figures of vaccination at age percentages are based are not provided.
	3.3%	3.8%	3.9%
KENT ADMIN. COUNTY			
Vaccination rate for children aged between one and two years	Vaccs. $\frac{13881}{22638} \times 100 = 61\%$ L.o. births	Vaccs. $\frac{13884}{23436} \times 100 = 59\%$ L.o. births	Vaccs. $\frac{14304}{23391} \times 100 = 61\%$ L.o. births
DARTFORD R.D.	Vaccs. $\frac{830}{1199} \times 100 = 69\%$ L.o. births	Vaccs. $\frac{791}{1172} \times 100 = 68\%$ L.o. births	Vaccs. $\frac{684}{1176} \times 100 = 58\%$ L.o. births
- do -			

TABLE X (b)(ii) SMALLPOX VACCINATION RATE OF THOSE VACCINATED WHILE AGED 1 YEAR. DARTFORD R.D. KENT A.C.

Birth year	Births	Infant deaths	Surviving infancy	Vaccination year	Aged 1 year in vaccin. year	Factor	With even flow prob.no. available in vaccin. year	Vaccinated while aged 1 year	Percentage
DARTFORD R.D.									
1963	1203	20	1183	1965	2362	$\frac{1}{2}$	1181	830	70%
1964	1199	20	1179	1966	2338	$\frac{1}{2}$	1169	791	68%
1965	1172	13	1159	1967	2316	$\frac{1}{2}$	1158	684	59%
1966	1176	19	1157						
KENT A.C.									
1964	22638	468	22170	1966	45207	$\frac{1}{2}$	22604	13884	59%
1965	23436	399	23037	1967	45950	$\frac{1}{2}$	22975	14304	62%
1966	23391	378	22913	1968	45384	$\frac{1}{2}$	22692	13266	58%
1967	22859	388	22471						

TABLE No (iii). SMALLPOX VACCINATION RATE ENGLAND & WALES

Birth year	Births	1000 - Inf.mort.rate	Surviving infancy	Vaccination year	No.at given age in vaccin. year	Factor	With even flow prob.no.available in vaccin. year	No.at given age vaccinated	Percentage
1960	785005	978.2	767000	1961	1562000	$\frac{1}{2}$	781000	319532	41%
1961	811281	978.6	795000	1962	1615000	$\frac{1}{2}$	807500	409195	51%
1962	838736	978.3	820000	1963	1655000	$\frac{1}{2}$	827500	76139	9%
1963	854055	978.9	835000	1964	1695000	$\frac{1}{2}$	847500	67043	8%
1964	875972	980.0	860000	1965	1706000	$\frac{1}{2}$	853000	50381	6%
1965	862723	981.0	846000	1966	1681000	$\frac{1}{2}$	840500	43705	5%
1966	849823	981.0	835000	1967	1651000	$\frac{1}{2}$	825500	41172	5%
1967	832164	981.7	861000						
VACCINATED AT 1-4 YEARS									
1959	748501	978.8	730000						
1960	785005	978.2	767000						
1961	811281	978.6	795000	1964	3947000	1/5	789400	246445	31%
1962	838736	978.3	820000	1965	4077000	1/5	815400	328441	40%
1963	854055	978.9	835000	1966	4156000	1/5	831200	396206	48%
1964	875972	980.0	860000	1967	4196000	1/5	839200	394547	47%
1965	862723	981.0	846000						
1966	849823	981.0	835000						
1967	832164	981.7	816000						

TABLE X VACCINATIONS (continued)

(b) SMALLPOX (iv)

NUMBERS VACCINATED AND REVACCINATED by age at date of vaccination. Dartford R.D.

Year	<u>Vaccinated</u>					Total
	Under 1 year	1 year	2 - 4	5 - 15	15 or over	
1967	?	684	?	?	?	?
1966	?	791	?	?	?	?
1965	?	830	?	?	?	?
1964	?	782	?	?	?	?
1963	?	217	?	?	?	?
1962	876	106	187	574	776	2519
1961	702	50	27	20	21	820

Year	<u>Revaccinated</u>					Total
	Under 1 year	1 year	2 - 4	5 - 15	15 or over	
1967	?	?	?	10*	?	?
1966	?	?	?	2*	?	?
1965	?	?	?	-*	?	?
1964	?	?	?	-*	?	?
1963	?	?	?	2*	?	?
1962	-	10	98	886	1838	2832
1961	-	-	2	4	3	9

* Age 5 - 7 years

VACCINATION RATE: Up to the end of 1961 most infants who were vaccinated were vaccinated in the first year of life but in 1962 more infants than in former years were vaccinated at a later age. In 1963 the second year of life was advocated as an age for vaccination. With this change of practice the County as seen above ceased to record vaccinations at ages under one year but continued to record them in the second year of life. Thus up to 1962 the expedient rate was the percentage of the number of births in a given year of those vaccinated while under one year of age in that year. 1963 and perhaps to some extent 1964 represented an interim period in which vaccinations diminished in number while infants reached their second year of life. From 1964 onwards the expedient rate became the vaccinations done at age 12 - 23 months expressed as a percentage of infants surviving to age of one year.

INFANT VACCINATION RATE:

	Number of live births	Number vaccinated under 1 year	Percentage of births of those vaccinated
1963	1203	?	?
1962	1187	876	74%
1961	1159	702	61%

SECOND YEAR VACCINATION RATE:

	Infants aged 1 year in January	Vaccinations done at age 12 - 23 months	Percentage
1967	1157	684	59%
1966	1159	791	68%
1965	1179	830	71%
1964	1183	782	66%
1963	1168	217	19%
1962	1142	106	9%
1961	1045	50	5%

SCHOOL CHILD IMMUNITY 1967: Vaccination and revaccination of children of school age is now minimal and the immunity is mainly that from vaccinations and revaccinations done in 1962 when smallpox was in the country. Our 1963 report estimated 1446 or 23% of those aged 5 - 14 born 1949-58 to have this legacy in December 1963. $537 + 528 + 563 + 497 = 2125$ left this age group by December 1967. i.e. 23% of 2125 = 490 left who were immune, the number of immune remaining then being $1446 - 490 = 956$. The 5 - 14 population December 1967 was 8544. Thus roughly $956/8544 \times 100 = 11\%$ school children had immunity in December 1967.

TABLE X VACCINATIONS (continued)

Bacterial Diseases

(c) DIPHTHERIA

NUMBER VACCINATED

Dartford R.D.

	Age at 31st December	Primary inoculations done in the year	Reinforcing inoculations done in the year
1967	0 - 4 years	990	961
	5 - 7 years	4	823
	8 - 16 years	-	19
1966	0 - 4 years	913	930
	5 - 7 years	6	789
	8 - 16 years	15	12
1965	0 - 4 years	1112	930
	5 - 7 years	9	682
	8 - 16 years	3	11
1964	0 - 4 years	926	964
	5 - 9 years	10	562
	10 - 14 years	-	5
1963	0 - 4 years	1047	834
	5 - 9 years	2	454
	10 - 14 years	1	6
1962	0 - 4 years	975	509
	5 - 9 years	27	363
	10 - 14 years	4	6

PRIMARY VACCINATIONS 0 - 4 years

Born	Vaccinated in year ending December 31st						1962-67 at age less than 5 years	Estimated population
	1962	1963	1964	1965	1966	1967		
1967		not born				437	437	1077
1966					377	531	908	1157
1965				500	514	12	1026	1159
1964			456	574	11	7	1048	1179
1963		514	414	18	4	-	950	1183
1962	430	513	29	9	7	aged five	988	1168
Totals	430	1027	899	1101	913	987	5357	6923

←----- 4370 -----→

PERCENTAGE 0 - 4 POPULATION VACCINATED

1967		not born				41%	41%	100%
1966					33%	46%	78%	100%
1965				43%	44%	1%	89%	100%
1964			39%	49%	1%	1%	89%	100%
1963		43%	35%	2%	0%	0%	80%	100%
1962	38%	44%	2%	1%	1%	aged five	85%	100%
Totals	6%	15%	13%	16%	13%	14%	77%	100%

% aged 0-4 vaccinated at end of:

$$1966 \quad \frac{4370}{5846} = 75\%$$

$$1967 \quad \frac{4369}{5755} = 76\%$$

TABLE X VACCINATIONS (continued)
(c) DIPHTHERIA (continued)

REINFORCING VACCINATIONS 0 - 4 YEARS BY DEC. 31st. 1967

Born	1956	1957	1958	1959	1960	1961	Revaccinated in years ending Dec. 31st.					Jan 1957- Dec. 1967 Revaccinated before age 5	Estimated population	% revaccinated Jan. 1957 to Dec. 1967 before age of 5
							1962	1963	1964	1965	1966	1967		
1967													1077	-
1966											2	14	1157	1%
1965										-	23	603	1159	53%
1964									-	18	615	217	1179	72%
1963								-	18	656	193	127	1183	84%
1962			not born					9	591	169	97		1168	74%
1961						-	10	524	230	87			1142	74%
1960					2	17	324	195	125			663	1045	63%
1959				-	3	178	100	106				387	968	40%
1958				-	57	143	75					275	920	30%
1957		-		6	18	90						122	827	15%
1956		-		7	52							59	758	8%
1955		3		42								52	610	9%
1954	3	3	24									30	574	5%
1953	2	14										16	532	3%
1952	34											34	497	7%
Total	39	20	39	55	132	428	509	834	964	930	930	5841		

TABLE X VACCINATIONS (continued)
(c) DIPHTHERIA (continued)

Up to 1960 the numbers of children receiving reinforcing doses of diphtheria vaccine were given to us in age groups each of which consisted of those born in a given year and this applied to all ages. For 1961 and subsequent years the older age groups have covered a wider span of ages and the span has varied from year to year. This makes presentation and interpretation awkward.

REINFORCING VACCINATION AT SCHOOL AGE

Born	Revaccination s in year ending December 31st												
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1956-1967
1962													
1961													
1960													
1959													
1958													
1957													
1956													
1955													
1954													
1953													
1952													
1951													
1950													
Before 1950													
Totals													

If the reinforcing vaccinations are distributed evenly amongst the grouped cohorts the following interpretation results. In the older age groups the percentages are over estimates owing to the population figures being under estimates owing to expansion of housing accommodation.

REINFORCING VACCINATION AT SCHOOL AGE

Born	Revaccinations in year ending December 31st.													Est. pop.	%
	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1956-1967		
1962															
1961															
1960															
1959															
1958															
1957															
1956															
1955															
1954															
1953															
1952															
1951															
1950															
Before 1950															
Totals															

TABLE X VACCINATIONS (continued)
(d) WHOOPING COUGH

NUMBER VACCINATED		Dartford R.D.	
	Age at 31st December	Primary inoculations done in the year	Reinforcing inoculations done in the year
1967	0 - 4 years	962	857
	5 - 7 years	2	414
	8 - 16 years	-	11
1966	0 - 4 years	885	796
	5 - 7 years	2	453
	8 - 16 years	1	7
1965	0 - 4 years	1100	873
	5 - 7 years	8	464
	8 - 16 years	3	11
1964	0 - 4 years	1004	?
	5 - 9 years	4	?
	10 - 14 years	-	?
1963	0 - 4 years	1018	?
	5 - 9 years	-	?
	10 - 14 years	1	?
1962	0 - 4 years	953	?
	5 - 9 years	6	?
	10 - 14 years	-	?

PRIMARY VACCINATIONS AT AGES 0 - 4 years

Born	Vaccinated in year ending December 31st						1962-67 at age < 5	Estimated population
	1962	1963	1964	1965	1966	1967		
1967						426	426	1077
1966					366	517	883	1157
1965		not born		495	498	10	1003	1159
1964			451	573	11	6	1041	1179
1963		509	501	16	4	3	1033	1183
1962	425	496	26	8	6	aged five	961	1168
Totals	425	1005	978	1092	885	962	5347	5923

PERCENTAGE 0 - 4 POPULATION VACCINATED

1967						40%	40%	100%
1966					32%	45%	76%	100%
1965		not born		43%	43%	1%	87%	100%
1964			38%	49%	1%	1%	89%	100%
1963		43%	42%	2%	0%	0%	98%	100%
1962	36%	43%	2%	1%	1%	aged five	83%	100%
Totals	6%	15%	14%	16%	13%	14%	77%	100%

TABLE X VACCINATIONS (continued)
(d) WHOOPING COUGH (continued)

REINFORCING VACCINATION at ages 0 - 4 years

Born	1962	1963	1964	1965	1966	1967	1962-67	Estimated population	%
1967								1077	
1966					2	12	14	1157	1%
1965		not born			20	548	568	1159	49%
1964			?	14	561	202	777	1179	67%
1963		?	?	639	163	95	897+	1183	76% +
1962	?	?	?	164	50	aged five	214+	1168	18% +

REINFORCING VACCINATION at ages 5 - 7 years

Born	1965	1966	1967	Revaccinated 1965-67	Estimated population 1965-67	%
1962	aged under five		138	138	1168	Period of eligibility not complete
1961	- do -	151	138	289	1142	
1960	155	151	138	444	1045	43%
1959	155	151	aged eight	306	968	Period of eligibility not complete
1958	154	and over		154	920	
	464	453	414	1331		

(e) TETANUS

1965 is the first year for which we have figures for tetanus vaccination. For routine vaccination tetanus vaccine is given combined with that of diphtheria, the combined vaccine being introduced in 1960. The figures for the vaccination of the young population are therefore almost identical with those for vaccination against diphtheria. Thus:

	Age at 31st December	Primary inoculations done in the year	Reinforcing inoculations done in the year
1967	0 - 4 years	990	961
	5 - 7 years	4	823
	8 - 16 years	-	19
1966	0 - 4 years	913	930
	5 - 7 years	6	789
	8 - 16 years	15	12

TABLE XI - INJURY
(a) ACCIDENTS ON THE ROAD

Casualties (not necessarily R.D. residents) on local roads (Chief Constable's analysis)

Local Authority	Total injury accidents		Killed		Seriously injured		Slightly injured		Total	
	1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
Dartford R.D.	307	276	10	7	130	101	329	289	469	39
Northfleet U.D.	108	97	3	-	41	44	103	93	147	13
Swanscombe U.D.	74	68	2	2	35	31	54	67	91	10
Dartford M.B.	275	246	5	4	100	92	240	222	345	31

Deaths of R.D. residents not necessarily on R.D. roads

1966

			Place of accident
7 years	M	Pedestrian fell under lorry	Common Lane, Wilmington
17 years	M	M/cycle out of control	S.E. London area
18 years	M	M/scooter/lorry	Orpington area
26 years	M	Car collided with lamp post	Rochester Way, Bexley
30 years	M	Moped cycle/car	Hawley Road/Parsonage Lane
40 years	M	Motor scooter/lorry	Orpington area
55 years	M	Pedestrian struck by three vehicles	A.2

1967

8 years	M	Pedestrian struck by car	London Road, Swanley
19 years	M	Motor cycle/car (as known to us)	near Swimming pool
		unspecified traffic accident as known to R.G.	Queens Road, Erith
44 years	F	Pedestrian/car	Epsom, Surrey
77 years	F	Pedestrian/car	London Road, Stone

International classification of injuries.

External cause of injury		Nature of injury	
1966	1967	1966	1967
E 812.0	E 812.4	N 805	N 804
E 821.4	E 815.4 (E 825.9 R.G.)	N 803	N 853
E 815.1	E 812.4	N 801	N 996.8
E 823.4	E 812.4	N 804	N 853
E 815.4		N 804	
E 815.1		N 804-	
E 812.4		N 804	

(b) ACCIDENTS AT WORK

Year	Age	Sex	Occupation	Cause	Injury	I.C.D. category
1966	60	M	Labourer on building site	Wall of trench collapsing	Traumatic asphyxia	E 925 N 862
1967	32	M	Building worker	Trapped under dumper truck	Traumatic asphyxia	E 911 N 862

TABLE XI (a) continued

DEATHS FROM MOTOR VEHICLE ACCIDENTS 1958-67

Comparison with other areas

Year	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1958-67 where applicable	Deaths all causes	Aggregate Pop. estimates	Death rate °/0000	% Deaths all causes	
Dartford rural area	5	14	8	3	8	7	14	1	7	4	71	4840	529040	13.5	1.47	
Mental Hospitals	2	1	-	1	-	(1)*	1	2	-	-	8	598	25000	32.0	1.34	
Dartford R.D.	7	15	8	4*	8	8	15	3	7	4	79	5438	554040	14.3	1.45	
Dartford Town	6	2	8	12	7	5	6	4	8	3	61	4342	436470	14.0	1.41	
Mental Hospitals	-	-	-	-	2	-	-	-	1	-	3	1627	20000	15.0	0.18	
Dartford M.B.	6	2	8	12	9	5	6	4	3	3	64	5969	456470	14.0	1.07	
Northfleet U.D.	2	1	2	3	4	2	6	1	5	-	26	2185	228020	11.8	1.19	
Swanscombe U.D.	-	1	-	1	3	1	-	2	-	-	8	842	91050	8.8	0.95	
Kent U.D.	148	156	142	157	159	156	183				1101	109467	9157590	12.0	1.01	
Kent U.D.																
Kent R.D.	45	60	58	65	60	69	65	108	127	110	345	32786	2599770	13.1	1.05	
Kent R.D.											422	30917	2589940	16.3	1.37	
Kent R.D.																
Kent R.D.	"	"	"	"	"	"	"	63	78	69	210	14214	1268890	16.6	1.48	
Kent R.D.								"	"	"	632	45131	3858830	16.4	1.40	
London A.C.	335	383	447	414	396	366	400				2741	263681	22352700	12.3	1.04	
Greater London																
Greater London								1015	986	953	2954	260801	23743160	12.5	1.13	
England & Wales	5439	6026	6643	6634	6306	6351	7271	7515	7454	7160	66799	5463724	467822000	14.3	1.23	

* 1961. 4 is R.G.'s figure
our figure is 3.

* 1963 (1) This accident was not on the public highway

TABLE XI - INJURY (continued)

(c) ACCIDENTS IN THE HOME

PERSONS RECEIVING IN-PATIENT TREATMENT

Dartford Group of Hospitals

Age	Falls		Burns & Scalds		Poisoning		Other		Total	
	1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
0- 4	4	7	1	-	2	7	3+1*	3	11	17
5- 64	4	9	1	1	1	-	1	4	7	14
65+	9+1*	9+2*	-	-	-	1	1	3	11	15
	18	27	2	1	3	8	6	10	29	46

* died - see below

Length of stay in hospital in weeks before discharge home:

	Under 1 week	1-	2-	3-	4-	8-	12-	13+	Cases
1966	15	3	4	1	2	2	-	1	28
1967	30	1	4	5	3	1	-	-	44

The following were discharged to specializing hospitals:

Year	Age	Sex	External cause of injury	Nature of injury
1967	10mths	M	Pulled kettle over himself	Severe scalds neck, back, arms
	1 yr	M	"Battered baby" Syndrome	Fract. skull, brain injury, bruises

In the Dartford Group of hospitals for more than a week before discharge home:

	Age	Sex	External cause of injury	Nature of injury
<u>Fractures</u>				
1966	62	M	Fall from stepladder	Fract. metacarpal, clavicle, concussion
	82	M	Fall downstairs	Fractured zygoma
	38	F	Fall from bath	Fractured neck of femur
	77	F	Fall whilst gardening	Fractured neck of femur
	76	F	Fell out of bed	Fractured neck of femur
	74	F	Unspecified fall	Fractured skull and scalp wound
	60	F	Unspecified fall	Fractured neck of femur
1967	79	F	Fell from chair	Fractured vertebrae and pelvis
	23mths	M	Fell off table	Fractured femur
	73	F	Fell on floor	Fractured patella
	78	F	Unspecified fall	Fractured neck of femur
	65	F	Tripped	Fractured neck of femur
	76	F	Knocked leg on door	Fractured R. tibia
	80	F	Unspecified fall	Fractured femur
	5½	M	Caught foot in lawnmower	Comminuted fract. Metacarpals 2 &
	70	M	Fell in garden	Fractured ankle and fibula
	6	M	Fell downstairs	Fractured elbow
	76	F	Unspecified fall	Fractured femur

Other injuries

1966	13	F	Fell on level	Contusion
	85	F	Unspecified fall	Dislocation of shoulder
	54	M	Overdose of Doridan	Poisoning
	15	M	Hot water bottle burst	Scalds to arms
	10	F	Wire clothes line in eye	F.B. right eye
1967	18	M	Flash burns	Burns to face and hands

TABLE XI - INJURY (continued)
(c) ACCIDENTS IN THE HOME (continued)
PERSONS RECEIVING IN-PATIENT TREATMENT (continued)

Queen Mary's Hospital, Sidcup:

Age	Falls		Burns & Scalds		Poisoning		Other		Total	
	1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
0-4	-	-	-	1	1	1	1	-	2	2
5-64	-	2	-	2	-	6	-	3	-	13
65+	-	1*	-	-	-	-	-	-	-	1
	-	2+1*	-	3	1	7	1	3	2	16

* died-see below

Length of stay in hospital in weeks before discharge home:

	Under 1 week	1-	2-	3-	4-	8-	12-	13+	Cases
1966	2	-	-	-	-	-	-	-	2
1967	9	1	3	1	-	-	-	1	15

In Queen Mary's Hospital for more than a week before discharge home:

<u>Age</u>	<u>Sex</u>	<u>External cause of injury</u>	<u>Nature of injury</u>	
<u>Fractures</u>				
1966	-	-	-	
1967	-	-	-	
<u>Other injuries</u>				
1966	-	-	-	
1967	25	F	Overdose Soneryl	Poisoning
	72	M	Oil stove exploded	Burns face and neck
	39	M	Overdose Tetracycline	Poisoning
	7	F	Spilled hot water	Scalds
	1½	M	Hot water fell on him	Scalds face and shoulders
	7	F	Pushed off chair	Dislocated left elbow

Gravesend and North Kent Hospital:

Apart from death mentioned below, no persons known to have been admitted for this cause in 1966 or 1967.

PERSONS RECEIVING OUT-PATIENT TREATMENT

Queen Mary's Hospital, Sidcup:

The following statistics were available for 1966, no statistics available for 1967.

Age	Falls	Burns & Scalds	Poisoning	Other	Total
0-4	-	2	-	12	14
5-64	3	1	-	21	25
65+	-	-	-	1	1
	3	3	-	34	40

TABLE XI - INJURY (continued)
(c) ACCIDENTS IN THE HOME (continued)

DEATHS

Dartford Rural District

<u>Year</u>	<u>Age</u>	<u>Sex</u>	<u>External cause of injury</u>	<u>Nature of injury</u>	<u>Cause of death</u> <u>I.C.D. R.G.</u>	<u>Place of death</u>
1966	18mths*	M	F.B. in larynx	Asphyxia	E921.0 N933	Joyce Green Hospital
	74	F	Fall at home	Fractured neck of femur	252.0 Thyrotoxicosis	West Hill Hospital
	77	F	Fall on stairs	Pul.embolism Multiple fractures	E900.0 N828	Gravesend & N.Kent Hospital
1967	72	F	Fall on level	Pul.embolism leg vein thrombosis Fractured femur	E903.0 N821	Queen Mary's Hospital
	88	M	Unspecified fall	Concussed	491.Broncho-pneumonia	West Hill Hospital
	91	M	Unspecified fall	Head injury-laceration of face	'792.Uraemia	West Hill Hospital

England and Wales (includes residential institutions)

	Under 15		Over 15		All ages	
	1966	1967	1966	1967	1966	1967
Poisoning	56	43	1440	1251	1496	1294
Falls	92	79	3969	3751	4061	3830
Burns & Scalds	197	145	600	523	797	668
Others	488	439	364	445	852	884
	733	706	6373	5970	7206	6676

Dartford Rural District (d) OTHER ACCIDENTS

<u>Year</u>	<u>Age</u>	<u>Sex</u>	<u>External cause of injury</u>	<u>Nature of injury</u>	<u>Cause of death</u> <u>I.C.D.</u>
1966	-	-	-	-	-
1967	15	M	Drowned in lake of disused gravel pit	Drowning	E 929 N990
	19	M	Fell into Thames from waterman's boat	Drowning	E 850 N990
	31	M	Electrocuted by electric guitar	Electrocution	E 914 N992
	58	M	Acute alcoholism	Carbon monoxide poisoning	E 322.0 N 968 or 880

TABLE XI (e) (continued)

SUICIDE

Rates of aggregated years and districts

Year	R.D.Pop aggregates	Hosp.Pop. aggregates	Non-hosp. aggregates	Deaths	Rate o/oooo	S.E. rate	S.E. difference	
Dartford R.D.								
1953-57	208,280	10,000	198280	18	9.0	2.13)	2.54	} 2.54
1958-62	258,580	10,000	248580	13	5.2	1.45))	2.08	
1963-67	295,460	10,000	285460	18	6.3	1.49)		
1953-67	762,320	30,000	732320	49	6.7	0.96		
Dartford M.B.								
1953-57	204,160	10,000	194160	28	14.4	2.73)	3.6.	} 3.3
1958-62	223,670	10,000	213670	25	11.7	2.34))	3.0	
1963-67	232,800	10,000	222800	17	7.6	1.85)		
1953-67	660,630	30,000	630630	70	11.0	1.32		
Northfleet U.D.								
1953-57	98,320	-	-	14	14.2	3.79)	4.95	} 4.22
1958-62	108,010	-	-	12	11.1	3.20))	3.72	
1963-67	120,010	-	-	5	4.2	1.88)		
1953-67	326,340	-	-	31	9.2	1.66		
Swanscombe U.D.								
1953-57	44004	-	-	4	9.1	4.55)	5.56	} 5.06
1958-62	44850	-	-	2	4.5	3.18))	3.87	
1963-67	46200	-	-	1	2.2	2.20)		
1953-67	135054	-	-	7	5.4	2.04		
Kent U D's.								
1953-57	6245220	-	-	673	10.8	0.43		
1958-62	6473780	-	-	765	10.8	0.41		
1963-64	2683810	-	-	273	10.2	0.62		
1953-64	15402810	-	-	1651	10.7	0.26		
After boundary change								
1965-67	2599770	-	-	311	12.0	0.68		
Kent R.D's.								
1953-57	1683080	-	-	166	9.8	0.69		
1958-62	1805830	-	-	160	8.9	0.71		
1963-64	784110	-	-	72	9.1	1.08		
1953-64	4273020	-	-	398	9.3	0.47		
After boundary change								
1965-67	1268890	-	-	102	8.1	0.80		
Dartford Rural + Town + Northfleet + Swanscombe U.D's.								
1953-57	534764	-	-	64	12.0	1.50)	1.93	} 1.78
1958-62	615110	-	-	52	8.5	1.18))	1.54	
1963-67	665340	-	-	41	6.2	0.97)		
Dartford Town & Northfleet U.D.								
1953-67	956970	-	-	101	10.6	1.05)		
Dartford Rural area and Swanscombe U.D.								
1953-67	867374	-	-	56	6.5	0.87)		

TABLE XI (e) INJURY (continued)

SUICIDES Dartford R.D. excl. Long-stay hospitals

Year	Males				Females				
	Nos.	Age	Social class	Method	Nos.	Age	Social class	Method	Total
1953	1	50	II	drug	3	36 47 81	III III unclass.	hanging drowning railway	4
1954	2	35 41	III III	hanging carbon monoxide	-				2
1955	5	47 51 52 63 69	III III IV unclass. II	hanging carbon monoxide drowning railway gun	2	69 76	II III	carbon monoxide injury	7
1956	1	68	IV	hanging	1	77	IV	drug	2
1957	3	39 47 73	IV unclass. II	gun injury fall	-				3
1958	1	18	III	hanging	3	34 53 65	III I IV	carbon monoxide railway carbon monoxide	4
1959	1	55	II	gun	-				1
1960	1	63	II	gun	-				1
1961	1	48	II	gun	-				1
1962	2	27 57	II III	carbon monoxide drug	4	41 64 60 77	III Unclass. II IV	drug burns drugs drug	6
1963	2	49 85	unclass. II	drug carbon monoxide	1	55	IV	carbon monoxide	3
1964	1	56	III	railway	-				1
1965	3	34 45 74	III V Unclass.	carbon monoxide hanging carbon monoxide	1	74	unclass.	drug	4
1966	2	46 66	III III	carbon monoxide carbon monoxide	2	36 56	III III	drug hanging	4
1967	4	43 51 54 59	II II V III	drug carbon monoxide hanging carbon monoxide	2	40 57	II III	drug drug	6
	30				19				49

		15-	25-	35-	45-	55-	65-	75-	Total
Ages	Male	1	2	4	11	7	4	1	30
	Female	-	1	4	2	5	2	5	19
	Persons	1	3	8	13	12	6	6	49
		I & II	III	IV & V	Unclassified		All classes		
Social classes	Male	10	11	5	4		30		
	Female	4	8	4	3		19		
	Persons	14	19	9	7		49		
All causes	1958 *	100	185	160	50		495		
	1959 *	104	196	137	46		483		
	1963 **	99	230	181	63		573		
	Total	303	611	478	159		1551		
Percentage	Suicide	28%	39%	18%	14%		99%		
	1953-67								
	All causes	20%	39%	31%	10%		100%		
	1958, '59 '63								
	R.D. Census 1951	17%	46%	37%	-		100%		

* Classification of occupations G.R.O. 1950
 ** " " " " " 1960

TABLE XI - INJURY (continued)

DEATHS

Dartford Rural District

(e) SUICIDE

<u>Year</u>	<u>Age</u>	<u>Sex</u>	<u>External cause of injury</u>	<u>Nature of injury</u>	<u>Cause of death I.C.D.</u>
1966	36	F	Soporific poisoning	Barbiturate poisoning	E 970 N971
	46	M	Poisoning with domestic gas	Poisoning by carbon monoxide	E 972 N968
	56	F	Hanging	Asphyxia by strangulation	E 974 N991
	66	M	Poisoning with domestic gas. Progressive organic disease.	Poisoning by carbon monoxide	E 972 N968
1967	40	F	Soporific poisoning	Barbiturate poisoning	E 970 N971
	43	M	Poisoning by gas other than domestic	Cyclopropane poisoning	E 973 N969
	51	M	Poisoning by domestic gas	Poisoning by carbon monoxide	E 972 N968
	54	M	Hanging	Asphyxia by strangulation	E 974 N991
	57	F	Soporific poisoning	Poisoning by imipramine	E 970 N974
	59	M	Poisoning by domestic gas	Poisoning by carbon monoxide	E 972 N968
	60	M	Self inflicted injury	Injury to lung	E 979 N861

(f) HOMICIDE

1966	16	F	Assault by cutting instrument	Haemorrhage	E 982 N874
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TABLE XII (a)

YEARS OF WORKING LIFE AND TOTAL LIFE LOST FROM CERTAIN CAUSES OF DEATH

Dartford R.D. Males Per 10,000 Population 1967*

Age Group	Deaths	Rate %00	Work years lost	Total years lost	Deaths	Rate %00	Work years lost	Total years lost	Deaths	Rate %00	Work years lost	Total years lost
	<u>All causes</u>				<u>Cancer all sites</u>				<u>Coronary disease</u>			
0 -- 4	15	45	205	355	1	3	14	23	-	-	-	-
5 - 14	3	6	45	68	1	2	15	23	-	-	-	-
15 - 24	6	16	109	158	-	-	-	-	-	-	-	-
25 - 44	15	16	115	199	3	3	23	40	5	5	39	67
45 - 64	82	121	209	800	26	38	66	253	28	41	71	273
65 +	185	858		700	42	195		158	47	218		178
All ages	306	101	683	2280	73	24	118	497	80	26	110	418
	<u>Accidents</u>				<u>Bronchitis & Pneumonia</u>				<u>Cancer of lung</u>			
0 - 4	-	-	-	-	1	3	14	23	-	-	-	-
5 - 14	1	2	15	23	-	-	-	-	-	-	-	-
15 - 24	3	8	55	80	1	3	18	27	-	-	-	-
25 - 44	2	2	15	26	1	1	8	14	-	-	-	-
45 - 64	1	2	3	10	7	10	18	67	13	19	33	128
65 +	-	-	-	-	38	177	-	144	17	79	-	68
All ages	7	2	88	139	48	16	58	275	30	10	33	196
	<u>Vas.lesions N.S.</u>				<u>Respiratory tuberculosis</u>				1966 Census %	Pop. based on 1966 %	R.G. Standard weight Work years lost	Total years lost
0 - 4	-	-	-	-	-	-	-	-	5.4%	3330	4.570	7.6
5 - 15	-	-	-	-	-	-	-	-	8.2%	5060	7.545	11.3
15 - 24	-	-	-	-	-	-	-	-	6.0%	3710	6.836	9.8
25 - 44	-	-	-	-	-	-	-	-	15.1%	9320	7.156	12.4
45 - 64	5	7	13	49	1	2	2	10	11.0%	6800	1.727	6.6
65+	20	93		80					3.5%	2160		0.8
All ages	25	8	13	129	1	0	2	10	49.2%	30380		

England & Wales

Dartford R.D.

Males	Years of life lost %00				Years of life lost %00		Total years lost (to 85)
	Death Rate %00	Mean age at death	Work years (15-64)	Total years (to 85)	Death Rate %00	Work Years (15-64)	
All causes	118	66.0	663	2229	101	683	2280
Cancer all sites	25	66.1	106	448	24	118	497
Coronary disease	30	67.6	100	488	26	110	418
Accidents	4	43.6	97	178	2	88	139
Bronchitis & pneumonia	15	68.9	66	250	16	58	275
Cancer of lung	10	65.4	37	177	10	33	196
Vasc.les.Nerv.system	13	73.1	25	167	8	13	129
Resp.tuberculosis	1	63.7	3	11	0	2	10

* see page 30 R.G's quarterly return No.478 2nd quarter 1968

TABLE XII (b)

YEARS OF WORKING LIFE AND TOTAL LIFE LOST FROM CERTAIN CAUSES OF DEATH

Dartford R.D. Females per 10,000 Population 1967

Age Group	Deaths	Rate ‰	Work years lost	Total years lost	Deaths	Rate ‰	Work years lost	Total years lost	Deaths	Rate ‰	Work years lost	Total years lost
		All causes				Cancer all sites				Coronary disease		
0-4	9	27	111	187	-	-	-	-	-	-	-	-
5-14	1	2	14	21	-	-	-	-	-	-	-	-
15-24	1	2	13	18	-	-	-	-	-	-	-	-
25-44	10	11	71	128	3	3	19	34	1	1	6	11
45-64	38	58	108	400	17	26	48	178	5	8	15	55
65+	235	678		564	41	118		98	55	159		132
All ages	294	93	317	1318	61	19	67	310	61	19	21	198
		Other heart disease				Bronchitis & Pneumonia				Cancer of breast		
0-4	-	-	-	-	3	9	37	62	-	-	-	-
4-14	-	-	-	-	-	-	-	-	-	-	-	-
15-24	-	-	-	-	-	-	-	-	-	-	-	-
25-44	-	-	-	-	-	-	-	-	-	-	-	-
45-64	-	-	-	-	6	9	16	62	4	6	11	41
65+	27	78	-	65	36	104		87	8	23		19
All ages	27	9		65	45	14	53	211	12	4	11	60
		Vasc.les.N.S.				Accidents				R.G. Standard Pop. weights 1966 based on Census % 1966		
0-4	-	-	-	-	-	-	-	-	5.4%	3360	4.110	6.912
5-14	1	2	14	21	-	-	-	-	7.7%	4780	6.805	10.262
15-24	-	-	-	-	-	-	-	-	6.6%	4100	6.285	9.092
25-44	-	-	-	-	1	1	6	11	15.0%	9280	6.470	11.292
45-64	3	5	9	34	-	-	-	-	10.5%	6520	1.857	6.871
65+	38	110		92	2	6		5	5.6%	3470		0.832
All ages	42	13	23	147	3	1	6	16	50.8%	31510		

England & Wales
1967Dartford R.D.
1967

Females	Years of lost life ‰				Years of life lost ‰		
	Death Rate ‰	Mean age at Death	Works years (15-64)	Total years (to 85)	Death Rate ‰	Work years (15-64)	Total years (to 85)
All causes	107	72.0	407	1398	93	317	1318
Cancer all sites	20	66.7	91	325	19	67	310
Coronary disease	18	74.8	23	165	19	21	198
Other heart disease	15	78.4	16	123	9	-	65
Bronchitis & pneumonia	10	73.2	40	128	14	53	211
Cancer of breast	4	64.2	22	76	4	11	60
Vasc.lesions N.S.	19	76.6	22	159	13	23	147
Resp.tuberculosis	0	63.1	1	4	-	-	-
Accidents	3	63.1	33	71	1	6	16

TABLE XII (c)

CANCER OF LUNG

YEARS OF WORKING LIFE AND TOTAL LIFE LOST 1958-67

Dartford R.D. Males (local figures)

Year	Deaths at age 25-44					Deaths at age 45-64					Deaths at age 65+			
	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths	Mean age of death		
1958	-	-	-	-	48 56 56 59 61	280	5	56	67 71 73 86	297	4	74		
1959	41 44	85	2	43	54 61 62 63 63	303	5	61	66 66 67 67 68 69 69 70 73 73 73 74 80	915	13	70		
1960	-	-	-	-	45 47 49 52 56 59 59 61 61 61 61 61 62 63 63	859	15	57	65 65 67 75 75 78 78	503	7	72		
1961	-	-	-	-	46 53 57 57 60 61 62 64	460	8	58	66 68 69 70 74 75 76 89	587	8	73		
1962	41	41	1	41	47 56 58 58 58 59 60 60 61 61 62	640	11	58	68 68 70 70 71 72 75 78 79 80	730	10	73		
1963	34	34	1	34	56 57 58 59 60 61 61 62 63 63 64 64	728	12	61	65 67 67 67 69 70 74 75	554	8	69		
1964	-	-	-	-	50 56 59 62 62	289	5	58	66 66 67 67 67 67 71 72 73 73 77 78 80 86	1010	14	72		

TABLE XII(c) (continued)

CANCER OF LUNG (continued)

YEARS OF WORKING LIFE AND TOTAL LIFE LOST 1958-67

Dartford R.D. Males (local figures) (continued)

Deaths at age 25-44					Deaths at age 45-64					Deaths at age 65+				
Year	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of Deaths	Mean age of deaths		
1965	-	-	-	-	51 53 54 54 58 61 62 63 64	520	9	58	65 66 69 70 76 79	425	6	71		
1966	38 44	82	2	41	50 51 53 54 55 56 57 63 64	503	9	56	66 67 65 74 75 76 78 80	581	8	73		
1967	-	-	-	-	48 50 52 53 53 55 56 57 61 61 62 63	671	12	56	65 65 66 67 68 69 70 70 70 70 72 72 78 79 83	1064	15	71		
	As above	242	6	40.3	1958-67 As above		91	57.7	As above	5666	93	71.7		

Total of ages at time of death = 242 + 5253 + 6666 = 12161 years

Number of deaths = 190

Mean age at death = $12160/190 = 64.0$ yearsWorking life lost = $(91 + 6) 65 - (5253 + 242) = 6305 - 5495 = 810$

Aggregate annual male population estimates 1957-68 = 272020

Working life lost per year per 10,000 male population = $810 \div 27.2 = 30$ Retired life lost = $(91 + 6) (85 - 65) + (93 \times 85) - 6666 = 1940 + 7905 - 6666 = 3179$ Retired life lost per year per 10,000 male population = $3179 \div 27.2 = 117.0$ Total life lost per year per 10,000 male population = $(810 + 3179) \div 27.2 = \frac{3989}{27.2} = 147$

TABLE XII (d)

CANCER OF LUNG

YEARS OF WORKING LIFE AND TOTAL LIFE LOST 1958-67

Dartford R.D. Females (local figures)

Year	Deaths at age 25-44					Deaths at age 45-64					Deaths at age 65+				
	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths	Mean age of death	Ages at time of death	Total of ages	No. of deaths
1958	-	-	-	-	54 59	113	2	57	-	-	-	-	-	-	-
1959	-	-	-	-	49 62	111	2	56	66 69 71	206	3	69			
1960	-	-	-	-	-	-	-	-	69	69	1	69			
1961	36	36	1	36	49	49	1	49	65	65	1	65			
1962	-	-	-	-	47 57 60	292	5	58	68	68	1	68			
1963	-	-	-	-	64 64	173	3	58	76	76	1	76			
1964	-	-	-	-	54 57 62	174	3	58	65 74	139	2	70			
1965	-	-	-	-	52 59 63	175	3	58	74	74	1	74			
1966	-	-	-	-	48 63 64	323	6	54	66 86	152	2	76			
1967	-	-	-	-	66 63 63	186	3	62	66 67 67	200	3	67			
1958-67	36	36	1	36.0	As above	1596	28	57.0	As above	1049	15	69.9			

Total of ages at time of death = 36 + 1596 + 1049 = 2681 years

Number of deaths = 44 Mean age at death = $2681/44 = 60.9$ years

Working life lost (28 + 1) 65 = (1596 + 36) = 1885 = 1632 = 253 years

Aggregate female population estimates 1957-68 = 282020

Working life lost per year per 10,000 female population = 253, 282 = 9 years

Retired life lost = (28 + 1) (85 - 65) + (15 x 85) = 1049 = 580 + 1275 = 1855 = 1049 = 806 years

Retired life lost per year per 10,000 female population = 806 ÷ 28.2 = 29 years

Total life lost per year per 10,000 female population = (253 + 806) ÷ 28.2 = 1059 ÷ 28.2 = 38 years

TABLE XII (e)

CANCER OF LUNG

YEARS OF WORKING LIFE AND TOTAL LIFE LOST 1958-67

Dartford R.D. Alternative presentation of local figures

Age group of death	Mean age at death	65 less mean age at death	85 less mean age at death	Number of deaths in age group	Years of working life lost	Years of retired life lost	Years of total life lost	Per 10,000 population	
								Working life	Total life
Males									
0 - 24	-	-	-	-	-	-	-	-	-
25 - 44	40.3	24.7	44.7	6	148	120	268	5.4	9.8
45 - 64	57.7	7.3	27.3	91	664	1820	2484	24.4	91.4
0 - 64	56.5	8.5	28.5	97	825	1940*	2765	30.3	101.8
65+	71.7	(-6.7)	13.3	93	(-623)*	1237*	1237	-	45.4
All ages	64.0	1.0	21.0	190	190	3800*	3990	-	146.6
Females									
0 - 24	-	-	-	-	-	-	-	-	-
25 - 44	36.0	29.0	49.0	1	29	20	49	1.0	1.7
45 - 64	57.0	8.0	28.0	28	224	560	784	7.9	27.9
0 - 64	56.3	8.7	28.7	29	252	580*	832	8.8	29.5
65+	69.9	(-4.9)	15.1	15	(-74)*	227*	227	-	8.1
All ages	60.9	4.1	24.1	44	180	880*	1060	-	37.6
								Females	

Aggregate of 1958-67 annual population estimates

Years of working life lost per 10,000 pop. per year

Years of retired life lost per 10,000 pop. per year

Years of total life lost per 10,000 pop. per year

272020

 $825 \div 27.2 = 30$ $(1940 + 1237) \div 27.2 = 3177 \div 27.2 = 117$ $3990 - 27.2 = 147$

282020

 $252 \div 28.2 = 9$ $(580 + 227) \div 28.2 = 807 \div 28.2 = 29$ $1060 \div 28.2 = 38$

* An obscurity here may be lessened if one notes that $1940 + 623 + 1237 = 3800$
 $580 + 74 + 227 = 881$

TABLE XII (f)

CANCER OF LUNG

YEARS OF WORKING LIFE AND TOTAL LIFE LOST 1958-67 Dartford R.D. Males

Calculated and adjusted for comparison with rates for Eng & Wales.*See page 30 R.G.'s quarterly return No.478. 2nd qr.1968

Age Groups (a)	Male population census 1966 (b)	Percentage of all ages (c)	Population aggregates 1958-67 (d)	Deaths compiled locally 1958-67 (e)	Death Rate %000 (f)	Standard weight 1967 Working life (g)	Standard weight 1967 Total life (h)	Years of life lost %000 population	
								Working life (15-65) (f & g)	Total life (to age 85) (f x h)
0 - 4	3230	5.4%	29800	-	-	4.570	7.696	-	-
5 - 14	4900	8.2%	45308	-	-	7.545	11.363	-	-
15 - 24	3630	6.0%	33200	-	-	6.836	9.874	-	-
25 - 44	9010	15.1%	83400	6	.72	7.156	12.418	5.2	8.9
45 - 64	6610	11.0%	60920	91	15.00	1.727	6.661	25.9	100.0
65+	2110	3.5%	19400	93	47.40		0.816		38.7
All ages									
Male	29490	49.2%	272020	190	7.00			31.1	146.6
Female	30540	50.8%	282020	44	1.56				
Persons	60030	100.0%	554040	234	4.2				

TABLE XII (g)

YEARS OF LIFE LOST BY DEATH FROM ACCIDENTS Dartford R.D.

Year	Age of each death in years i.e. years lived	Total years lived (age beyond 85 taken as 85	Total deaths	Total years of life possible (No.deaths x 85)	Years of life lost (years possible less years lived)
Accidents in the home ICD E870.0 - E936.0					
1958	0 83	83	2	170	87
1959	8 37 78 78	201	4	340	139
1960	1 1 79	81	3	255	174
1961	85	85	1	85	-
1962	18 67	85	2	170	85
1963	3 54 78 70* 73* 80*	358	6	510	152
1964	78	78	1	85	7
1965	78 81	159	2	170	11
1966	2 77	79	2	170	91
1967	72	72	1	85	13
1958-67		1281	24	2040	759

* self neglect

Accidents in residential institutions ICD E870.7 - E936.7

1958	Nil	-	-	-	-
1959	38	38	1	85	47
1960	6 57 67 85	215	4	340	125
1961	86	85	1	85	-
1962	59 86 88	229	3	255	26
1963	Nil	-	-	-	-
1964	27 72 93	184	3	255	71
1965	Nil	-	-	-	-
1966	Nil	-	-	-	-
1967	Nil	-	-	-	-
1958-67		751	12	1020	269

Accidents other than by motor vehicles and other than the above
ICD E800-E802 E850-E936 excluding .0 and .7

1958	22 38 45 83	188	4	340	152
1959	0 33 36 63 83	215	5	425	210
1960	Nil	-	-	-	-
1961	5 49 62	86	3	255	169
1962	3	3	1	85	82
1963	20	20	1	85	65
1964	40 44 58	142	3	255	113
1965	48	48	1	85	37
1966	60	60	1	85	25
1967	15 19 31 32 58	155	5	425	270
1958-67		917	24	2040	1123

TABLE XII (g) (continued)

YEARS OF LIFE LOST FROM ACCIDENTS Dartford R.D.

Year	Age of each death in years i.e. years lived							Years lived (85 + taken as 85	Total deaths	Years possible. Deaths x 85	Years lost possible less lived
Deaths from motor vehicle accidents ICD E810-E835											
1958	19	45	53	57	65	71	74	384	7	575	191
1959	30	30	36	38	40	49	50	758	15	1275	517
	50	51	55	56	60	67	69				
	77										
1960	19	19	23	29	33	62	73	331	8	680	349
1961	28	43	67					128	3	255	127
1962	0	11	16	17	50	60	72	383	9	765	382
	75	82									
1963	8	19	21	48	49	59	67	544	8	680	336
	73										
1964	2	13	14	17	29	29	29	615	15	1275	660
	41	49	51	51	66	70	72				
	82										
1965	9	41	52					102	3	255	153
1966	7	17	18	26	36	40	55	193	7	575	382
1967	8	19	44	77				148	4	340	192
1958-67								3386	79	6675	3289

TABLE XII (h)

YEARS OF LIFE LOST EXTERNAL CAUSE OF INJURY 1958-67

Accidents in the home and residential institutions

By cause, age, sex and (years of life lost) Dartford R.D.

Cause	Home				Residential Inst.				Total		
	Males			Females	Males		Females	No.	years lost		
Coal gas (E890)	54	83	(33)	18	(67)	-	(-)	-	(-)	3	(100)
Other poisoning (E870-E88,E891-E895)	78		(7)	-	(-)	-	(-)	-	(-)	1	(7)
Falls (E900-E904)	78	78	79 85 (20)	1	67 72 77 78 81 (134)	57 85 93 (28)	67 86 86 88 (18)			17	(200)
Burns & Scalds(E916- E917)	-		(-)	8	74(84)	-	(-)	59	(26)	3	(110)
Choking & suffocation (E921,E922,E924,E925	1	2	0(252)	3	(82)	6	38(126)	72	(13)	7	(473)
Other E870-E936)	37	80*	(53)	70*	73*(27)	27	(58)	-	(-)	5	(138)
Total accidents in the home and residential institutions(E870- E936) (.6 + .7)	12		(365)	12	(394)	6	(212)	6	(57)	36	(1028)
			(759)				(269)				

* self neglect

ENVIRONMENTAL MATTERS

APPENDIX I - HOUSING

NEW HOUSES: The following dwellings have been completed in the last five years:

	1962	1963	1964	1965	1966	1967
By Dartford Rural District Council	137	108	89	227	104	200
By private enterprise	<u>269</u>	<u>301</u>	<u>382</u>	<u>495</u>	<u>341</u>	<u>358</u>
	<u>406</u>	<u>409</u>	<u>471</u>	<u>722</u>	<u>445</u>	<u>558</u>

HOUSING PROVIDED BY COUNCIL:

Year ending March	Applications received during year	Families rehoused during year	Applications cancelled during year	Effective list at end of year
1961	1323	213	18	1092
1962	1416	181	22	1213
1963	1485	170	14	1301
1964	1545	189	8	1348
1965	1562	238	22	1302
1966	1510	223	14	1273
1967	1577	253	80	1244
1968	1529	286	52	1191

LOCALITIES FROM WHENCE APPLICANTS REHOUSED:

	April-March 1965-66	April-March 1966-67	April-March 1967-68
Ash-cum-Ridley	8	4	1
Fawkham	3	5	4
Hartley	2	3	2
West Kingsdown	10	19	23
Longfield	9	4	11
Southfleet	7	15	4
Betsham	1	2	1
Bean	10	6	3
Darenth	16	19	12
Stone	47	37	38
Eynsford	2	7	5
Farningham	3	4	5
Horton Kirby	8	5	7
South Darenth	5	3	3
Sutton-at-Hone	3	7	6
Swanley	49	45	55
Crockenhill	6	6	12
Hextable	4	5	11
Wilmington	8	9	10
Hawley	4	9	5
Outside Rural District	<u>18</u>	<u>39</u>	<u>68</u>
	<u>223</u>	<u>253</u>	<u>286</u>

During the above three years, 180, 169 and 249 Council tenants were transferred to accommodation more suited to their requirements.

The dwellings required for tenants of unfit houses were 17, 16 and 14.

The engaged couples applying for tenancies were 132, 141 and 116.

APPENDIX I - HOUSING (continued)

IMPROVEMENT GRANTS APPLIED FOR:

	1966	1967
Applications for discretionary grants	Nil	Nil
Number of houses		
Applications for standard grants	57	121
Number of houses	57	121
Total cost of discretionary grants	Nil	Nil
Total cost of standard grants approved	£11,095	£25,549

IMPROVEMENT GRANT WORK COMPLETED:

Standard grants	£15,024 (77 houses)	£12,547 (69 houses)
Discretionary grants	Nil	Nil

UNFIT HOUSES MADE FIT:

	By Owner		By Local Authority	
	1966	1967	1966	1967
After informal action by local authority	50	51	-	-
After formal notice under (a) Public Health Acts	8	8	-	-
(b) Section 24 Housing Act 1957	4	Nil	-	-

REPAIRS:

The following are the details of repairs initiated by the Council's Public Health Inspectors:

	1966	1967
Water pipes repaired	3	2
Yard Paving repaired	1	1
Floors repaired	9	17
Roofs repaired,overhauled and made waterproof	22	32
Wallplaster and ceiling plaster repaired	43	37
Windows repaired including sash cords	19	19
Rainwater pipes and gutters repaired or renewed	10	11
Dampness abated	10	14
External rendering to walls and pointing	17	8
Chimney stacks and pots	1	1
Sub-floor ventilation improved	2	1
New sinks provided	1	-
Flushing cisterns renewed or repaired	5	3
Soil and ventilating pipes repaired	3	-
Water closet pans renewed	3	2
Houses provided with new dustbins	1	-
Other defects	37	58
Visits paid by the Council's Public Health Inspectors	5770	2667

RENT ACT,1957:

The following certificates have been received and issued for disrepair:

Dampness	Nil	1
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APPENDIX I - HOUSING (continued)

HOUSES DEMOLISHED - HOUSING ACT, 1957

	1966	1967
In Clearance Areas: (Housing Act, 1957)		
Houses unfit	5	8
Not in Clearance Areas:		
As a result of action under Section 17	9	8
Unfit Houses Closed:		
Under Sections 16 and 17 etc.	2	2
Parts of buildings closed under Section 18	1	Nil

ADDRESSES OF HOUSES DEMOLISHED OR CLOSED:

1966	1967
1 & 2, White Post Cott. Farningham	224-230, (even) Main Road, Sutton-at-Hone
5, Giffords Cottages, S. Darenth	1, 2, 3, 4, Beaconsfield Terrace, Fawkham
50, Main Road, Sutton-at-Hone	"Kirkham" Hever Road, West Kingsdown
1 - 5, Dawes Cottages, Southfleet	"Excelsior" East Hill Road, W. Kingsdown
1 - 4, Lombard Cottages, Horton Kirby	1/2, Blue Cottages, Southfleet
1 & 2, Turners Oak, Ash	16, Bean Hill Cottages, Bean
75, High Cross Road, Southfleet	3, Church Cottages, Swanley Village
"Pinewood" London Road, Swanley	1, 2, 3, Albert Cottages, Eynsford
(basement and flat)	2, Thames View Farm, Hartley

DEMOLITION AND CLOSING ORDERS MADE:

	1966	1967
Number of demolition orders issued	8	4
Number of closing orders issued	3	1
Number of undertakings not to be used for habitation	1	Nil

PERSONS DISPLACED:

	1966		1967	
	Persons	Families	Persons	Families
In Clearance Areas:				
Houses unfit	23	9	31	9
Not in Clearance Areas:				
As a result of action under Section 17	12	4	5	3

CARAVANS:

	1966	1967
The number of sites licensed under the Act	40	44
The total number of caravans permitted by licence on these sites	357	377
Visits paid by the Council's Public Health Inspectors	56	50

APPENDIX II - WATER

GATHERING GROUND. The chalk below this district is part of the gathering ground for N.W.Kent. The wells of the Metropolitan Water Board, Mid Kent Water Company and the Medway Water Board draw water from here to supply this and neighbouring districts. The Lullingstone estate has a small supply of its own. One hospital has its own supply which is supplemented if necessary with Metropolitan Water Board water. Certain factories have their own wells, mainly for industrial purpose

ACCESSIBILITY OF SUPPLY. With a few exceptions all dwellings have water piped into them from these sources and the quantity is abundant.

QUALITY. Apart from the five dwellings on their own domestic supplies the quality of water supplied is excellent.

SOURCES OF SUPPLY AND ACCESSIBILITY

Piped supplies into houses. The position at the end of 1967 was as follows:

The Medway Water Board does not serve this district.

The Metropolitan Water Board serve the following Parishes:

Darenth	Farningham	Stone
Crockenhill	Horton Kirby	Sutton-at-Hone
Eynsford	Southfleet	Swanley
		Wilmington

The Mid Kent Water Company serve the following Parishes:

Ash	Fawkham	Hartley
Longfield	Southfleet	West Kingsdown

Lullingstone Estate supply	Eynsford	serves	65 houses
Darenth Park Hospital	Darenth	"	8 "
Barn End Laundry well	Wilmington	"	1 house
A.P.C.M. Clay Pit	Bean	"	1 "

Supplies not piped into houses

Domestic well	Sutton-at-Hone	1 house
Rainwater tanks	West Kingsdown	1 "
	Darenth	1 "
Transported water	Farningham	2 houses
Standpipe (Met. Water Board)	Horton Kirby	1 house (piped into house by 1

Piped supplies into hospitals

Stone House Hospital Metropolitan Water Board
(population 500)

Darenth Park and Mabledon Metropolitan Water Board and hospital well
Hospital (population 2250)

Industries with well supplies

1) For industrial use and for human consumption:

Dartford Trading Estate	Wilmington
Vickers Roneo Ltd	Wilmington
Webster & Steele	Hawley Road, Hawley

2) For industrial use only:

Darenth Fabric Printing Works	Darenth
Vulcanized Fibre Co.	Eynsford
A.P.C.M. Kent Works	Stone
A.P.C.M. Johnsons Works	Stone
Horton Kirby Paper Mills	Horton Kirby

APPENDIX II - CHEMICAL RESULTS

Milligrammes per litre, average results

Water (continued) Quality (continued)
1966

Well	No. of samples	Ammonia Nitrogen	Albuminoid Nitrogen	Nitrate Nitrogen	Oxygen absorbed in 4 hrs at 27°C	Hardness Total	Hardness (non-carb)	Chlorides as Chlorine	pH	Natural Fluoride as Fluorine	Conductivity reciprocal megohms
<u>Met. Water Board</u>											
Darenth	4	0.012	0.041	4.6	0.11	273	42	18	7.1		510
Dartford	4	0.005	0.036	3.7	0.15	281	59	20	7.1		520
Eynsford	8	0.010	0.018	3.9	0.13	268	40	17	7.2		470
Green St. Green	5	0.010	0.023	6.0	0.07	282	31	19	7.2		510
Horton Kirby	8	0.004	0.031	4.3	0.11	270	46	17	7.1		470
Lullingstone	8	0.012	0.023	3.2	0.16	258	31	14	7.2		470
Southfleet	5	0.007	0.040	6.4	0.09	309	44	21	7.1		560
Wilmington	4	0.008	0.049	7.5	0.35	303	67	25	7.1		570
<u>Medway Water Board</u>											
Fawkham Pumping Stn	5	0.000	0.000	4.4	0.16*	283	37	19	7.2		507
<u>Mid Kent Water Co.</u>											
Hartley Pumping Stn	7	0.000	0.000	4.7	0.03*	265	21	13	7.2	>0.1	-
Stansted Private Supply	4	0.000	0.003	2.9	0.00*	274	16	13	7.1	>0.1	-
Lullingstone Estate	1	not detected	less than 0.03	5.0	0.20	330	75	26	7.0		

* Fawkham Pumping Station oxygen absorbed 3 hours at 37°C.

* Hartley " " " "

* Stansted " " " "

- = not estimated
- = not estimated
- = not estimated
Treated and untreated water used for averages

APPENDIX II - CHEMICAL RESULTS

Milligrammes per litre, average results

Water (continued) Quality (continued)

1967

Well	No. of samples	Ammonia Nitrogen	Albuminoid Nitrogen	Nitrate Nitrogen	Oxygen absorbed in 4 hours at 27°C	Hardness Total	Hardness (non-carb)	Chlorides as Chlorine	pH	Natural Fluoride as Fluorine	Conductivity reciprocal megohms
<u>Met Water Board</u>											
Darenth	4	0.009	0.033	4.7	0.10	270	46	18	7.3	0.15	510
Dartford	4	0.003	0.034	4.3	0.12	272	50	22	7.3	0.15	540
Eynsford	8	0.009	0.030	4.0	0.08	265	37	15	7.3	0.10	500
Green St. Green	8	0.012	0.033	6.4	0.06	289	45	17	7.1	0.10	540
Horton Kirby	8	0.004	0.031	4.8	0.08	268	44	19	7.2	0.15	520
Lullingstone	8	0.004	0.025	4.0	0.14	259	33	15	7.3	0.10	500
Southfleet	4	0.005	0.024	7.4	0.08	309	54	18	7.1	0.15	580
Wilmington	4	0.008	0.037	7.3	0.15	286	54	26	7.3	0.20	590
<u>Medway Water Board</u>											
Fawkham Pumping Stn	5	0.000	0.000	4.7	0.10*	255	35	20	7.1	-	504
<u>Mid Kent Water Co.</u>											
Hartley Pumping Stn	3	0.001	0.004	4.4	0.06*	264	20	14	7.2	-	-
Stansted Pumping Stn	1	0.000	0.000	2.7	0.00*	267	15	13	7.3	-	-

* Fawkham Pumping Station oxygen absorbed 3 hours at 37°C

* Hartley " " " "

* Stansted " " " "

- = not estimated

Treated and untreated water used for averages

APPENDIX II - WATER (continued)

QUALITY Bacteriological Analyses - 1966 Sampling by Water Undertakers

<u>Metropolitan Water Board</u>	<u>No. of samples</u>	<u>E coli in 100 ml.</u>
Raw water	2248	see table
Treated water	1170	none

RAW WATER

Yearly averages

Well	No. of samples	Plate count per ml.		Coliform count		Escherichia coli count	
		20-24 hours at 37°C	3 days at 22°C.	% samples negative in 100 ml.	Count per 100 ml.	% samples negative in 100 ml.	Count per 100 ml.
Darenth	248	0.3	67	97.18	0.1	98.79	-
Dartford	248	0.0	2	100.0	-	100.0	-
Eynsford No.1	204	0.2	14	88.73	0.7	100.0	-
Eynsford No.2	87	0.0	7	98.85	0.1	100.0	-
Green St.Green No.1	201	0.0	1	92.54	0.2	98.01	-
Green St.Green No.2	38	0.1	26	97.37	-	97.37	-
Horton Kirby No.1	233	0.3	64	94.85	0.2	96.14	0.1
Horton Kirby No.2	246	0.1	2	97.97	0.2	99.59	0.1
Lullingstone No.1	136	0.0	1	100.0	-	100.0	-
Lullingstone No.2	122	0.0	0	100.0	-	100.0	-
Southfleet	237	0.8	3	97.47	0.1	100.0	-
Wilmington	248	1.4	29	96.77	0.1	98.79	-

<u>Medway Water Board</u>	<u>No. of samples</u>	<u>E coli in 100 ml.</u>
Raw water	89	see table
Treated water	89	none

RAW WATER

Fawkham Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-89	90-100	100+	Samples
Coliform	55	32	1	none	none	none	none	1	none	89
E coli type 1	64	24	none	none	none	none	1	none	none	

<u>Mid Kent Water Company</u>	<u>No. of samples</u>	<u>E coli in 100 ml.</u>
Raw water	19	see table
Treated water	110	none

RAW WATER

Hartley Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-89	90-100	100+	Samples
Coliform	7	1	-	-	-	-	-	-	-	8
E coli type 1	8	-	-	-	-	-	-	-	-	

RAW WATER

Stansted Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-89	90-100	100+	Samples
Coliform	8	3	-	-	-	-	-	-	-	11
E coli type 1	9	2	-	-	-	-	-	-	-	

APPENDIX II - WATER (continued)

QUALITY

Bacteriological Analyses - 1967

Sampling by Water Undertakers

Metropolitan Water Board

Raw water

Treated water

No. of samples

2204

1960

E coli in 100 ml.

see table

none

RAW WATER

Yearly averages

Well	No. of samples	Plate count per ml.		Coliform count		Escherichia coli count	
		20-24 hours at 37°C	3 days at 22°C	% samples negative in 100 ml.	Count per 100 ml.	% samples negative in 100 ml.	Count per 100 ml.
Darenth	247	0.0	7	99.19	-	99.60	-
Dartford	247	0.1	2	100.0	-	100.0	-
Eynsford No.1	132	0.3	9	100.0	-	100.0	-
Eynsford No.2	188	0.0	5	100.0	-	100.0	-
Horton Kirby No.1	180	0.8	25	91.67	0.8	93.33	0.5
Horton Kirby No.2	215	0.1	5	93.49	0.4	94.42	0.3
Green St.Green No.1	177	0.0	5	93.79	0.1	96.61	-
Green St.Green No.2	48	0.1	0	91.67	0.2	95.83	0.1
Lullingstone No.1	146	0.0	1	100.0	-	100.0	-
Lullingstone No.2	153	0.0	13	100.0	-	100.0	-
Southfleet	221	0.0	102	100.0	-	100.0	-
Wilmington	250	1.5	4	98.80	-	100.0	-

Medway Water Board

Raw water

Treated water

No. of samples

89

89

E.coli in 100 ml.

see table

none

RAW WATER

Fawkham Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-89	90-100	100+	Samples
Coliform	73	14	1	1	none	none	none	none	none	} 89
E coli type 1	80	7	1	1	none	none	none	none	none	

Mid Kent Water Company

Raw water

Treated water

No. of samples

39

123

E coli in 100 ml.

see table

none

RAW WATER

Hartley Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-59	90-100	100+	Samples
Coliform	24	2	1	none	none	none	none	none	none	} 27
E coli type 1	26	1	none	none	none	none	none	none	none	

RAW WATER

Stansted Pumping Station

Probable No. per 100 ml.	None	1-9	10-19	20-29	30-39	40-49	50-59	90-100	100+	Samples
Coliform	5	6	none	1	none	none	none	none	none	} 12
E coli type 1	8	4	none	none	none	none	none	none	none	

Lullingstone Water Supply: One sample of treated water showed no coliforms

APPENDIX II - (continued)

QUALITY (continued)

Sampling by Hospitals

		1966		1967	
		No. of samples	E.coli 1 per 100 ml.	No. of samples	E.coli 1 per 100 ml.
Stone House	Treated water	37	None	6	None
		1	None (Proteus 14)	1	8
Darenth Park	Raw water	25	None	48	None
	Treated water	35	None	48	None
Mabledon Hospital	Treated water	-	-	-	-

Sampling by Council's Public Health Inspectors

Lullingstone	Treated water	1	180+	2	None
Darenth Wood Farm	Rainwater	-	-	1	1
Ayres Nursery Well-Clement Street		-	-	-	-
Laundry well (also 1 dwelling)		-	-	-	-
Brands Hatch (Bore-hole)		-	-	-	-
Darenth Fabric Printing Works		1	0	1	0
Claypits, Bean		-	-	1	0
Websters Whiting Works		1	0	-	-
Meadowcroft Farm Longfield		-	-	1	0
Two domestic premises (M.W.B.)		2	0	1	0

SWIMMING POOLS

In 1966 there were three private enterprise swimming pools in the district open to the public and two swimming pools at two schools. In 1967 the Council's swimming pool at White Oak was opened.

All the swimming pools in the district are provided with continuous circulation filtration and chlorination. With continuous circulation, filtration and chlorination, the bacteriological standard aimed at is, that no sample should contain any coliforms in 100 ml. of water; that in 75 per cent of the samples, the plate count should not exceed 10 colonies and that in the remainder the count should not exceed 100 colonies.

Filtration at White Oak pool is carried out by circulating the water through two horizontal gravity feed sand filters after which it is chemically re-treated. Circulation of water is by means of distribution nozzles in the bottom of the pool, the return water to the filters being collected in channels along the pool side. This system has been used to provide efficient distribution of re-treated water and the rapid removal of any contaminated water on the surface of the pool. The whole of the water in the main pool is changed every four hours and every hour and a half in the teaching pool.

The main pool ^{is} of international standard ^{and} is 110'0" x 42'0" and 6'0" deep reducing to 3'0" at the shallow end. The diving pool is to one side of the swimming pool with a water depth of 12'6". Capacity of main pool: 253765 gallons.

The teaching pool is 41'3" x 24'0" and 2'9" deep in a separate hall to provide suitable conditions for teaching. Capacity: 17235 gallons.

Attendances at the pool in 1967 were:-

April	34,900	July	48,000	October	34,000
May	35,380	August	50,600	November	23,600
June	39,255	September	34,500	December	13,000

The following events were held at the pool:

The Police life-saving championships, Sea Cadets Gala, Swanley and District Boy Scouts, Dartford Rural District Schools Gala, Orpington Boy Scouts, and the Eynsford County Primary School Gala.

APPENDIX II - WATER (continued)

QUALITY (continued)

Swimming Pools (continued)Sampling results

Source		Probable numbers per 100 ml.				Plate count per ml.	
		Coliforms		E.coli among coliforms		24 hr. 37°C.	
		1966	1967	1966	1967	1966	1967
Manor House	Shallow end	0	0			0	0
	Deep end	0	0			0	2
	Shallow end		1		1		4
	Deep end		2 or more		2 or more		2
	Shallow end		2 or more		2 or more		10
	Deep end		1		1		2
Woodlands	Shallow end	0	0			1	3
	Deep end	0	0			3	2
	Shallow end		0				0
	Deep end		0				0
Stanwell House	Shallow end	0	0			0	0
	Deep end	0	0			0	0
Hextable Special School	Shallow end	0	0			3	1
	Deep end	0	0			23	0
	Shallow end	0	0			0	0
	Deep end	0	0			0	0
	Shallow end		0				80
	Deep end		0				75
	Shallow end		0				0
	Deep end		0				14
	Shallow end		0				139
	Deep end		0				137
	Shallow end		0				23
	Deep end		0				50
Longfield Primary School	Shallow end	0				1	
	Deep end	0				0	
	Mid-pool		0				0
	Mid-pool		0				2
White Oak	Shallow end	12 samples				12 samples	
	Deep end						
	Teaching pool		0				0
	Shallow end		0				6
	Deep end		0				15
	Teaching pool		0				1
	Shallow end		0				13
	Deep end		0				1
	Teaching pool		0				16
	Shallow end		0				10
	Deep end		0				44
	Teaching pool		0				6

APPENDIX III - DRAINAGE

In 1966 - 104 dwellings were built by the Council and in 1967 there were 200; all were connected to main drainage. Of the 341 houses built by private enterprise in 1966 - 331 were connected to the sewer and 10 to cesspools.

In 1967 - 358 houses were built by private enterprise, of these 11 were connected to cesspool drainage and the remainder to main drainage system.

The following are the details of the work initiated by the Council's Public Health Inspectors:

	1966	1967
Pail closets abolished	4	1
Cesspools abolished and property connected to sewer	426	245
Drainage relaid	-	-
Covers renewed to inspection chambers and cesspools	1	4
Drains repaired	5	16
Water tests applied to drains	125	85
Smoke tests applied to drains	7	45

We have now no reliable precise figures for the various ways in which the houses of this district are drained. However, approximations may be useful and the following refer to the end of March 1967.

Dwellings with water closets draining into the sewer	16694
Dwellings with water closets draining into septic tanks	180
Dwellings with water closets draining into cesspools being emptied	1040
Dwellings with water closets draining into cesspools not being emptied	800
Dwellings with chemical closets	20
Total	<u>18734</u>

HARTLEY/LONGFIELD/NEW BARN SEWERAGE SCHEME: Only a few connections were made during 1966 and 1967 and this scheme can now be considered completed.

WEST KINGSDOWN SEWERAGE SCHEME: During 1966 and 1967 work proceeded in laying the sewer to serve West Kingsdown and by the end of 1967 -701 properties (which figure is included above) had been connected to the sewer.

STONE OUTFALL WORKS: Drainage from the Parish of Stone and a portion of Swanscombe U.D. continues to these works but owing to the limited treatment the effluent cannot be good and at times is offensive. There are plans for treatment elsewhere but in the meantime, owing to the smallness of the flow, the resultant pollution of the River Thames although undesirable, must be minute. The following summarise the analyses by the Port of London Authority of the effluent:

	Averages in parts per million	
	1966	1967
Suspended matter	66	66
Albuminoid nitrogen	8	7
Oxygen absorbed 4 hrs 27°C	48	42
Oxygen absorbed 5 days 20°C (B.O.D)	331	325
Samples	21	22

Standards vary with local circumstances. Above Crossness, effluents into the R. Thames should have no more than 30 p.p.m suspended matter and 20 p.p.m B.O.D. but below Crossness less exacting standards are applied, especially to small effluents. Below Long Reach the P.L.A. hitherto asked for the following limits:

Albuminoid ammonia (almost same unit as Albuminoid nitrogen) 7 p.p.m
Oxygen absorbed 3 hrs at 37°C (almost same as 4 hrs at 27°C) 70 p.p.m.

APPENDIX IV - FOOD HYGIENE

FOOD PREPARATION. The number of inspections made in 1966 and 1967 were 213 and 138 respectively. 24 and 26 informal notices were issued to secure compliance with the Food Hygiene Regulations. The following defects were remedied:-

	<u>1966</u>	<u>1967</u>
Wash-hand basins provided	5	2
Sinks for washing equipment	1	2
Hot water provided	3	5
First Aid equipment provided	9	6
Cleanliness and repair of food rooms	15	-
Lighting and ventilation of food rooms provided	2	2
Sanitary accommodation repaired	1	1
Sanitary accommodation labelled	7	1
Miscellaneous repairs	11	23

REGISTERED PREMISES. Regulations require this Council to register distributors of milk, i.e., dairymen other than dairy farmers.

	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
Total number of distributors on register	33	60	62	65

The Food and Drugs Act, 1955 require certain premises to be registered. Those registered were as follows:-

	<u>1966</u>	<u>1967</u>	<u>Total registered</u>	
	<u>1966</u>	<u>1967</u>	<u>1966</u>	<u>1967</u>
Sausage making and cooked meats	1	1	16	17
Storage and sale of ice-cream	1	4	159	163
Manufacture and sale of ice-cream	-	-	-	-
Cooking of ham	1	1	2	8

MEAT INSPECTION. In 1966 and 1967 there were no slaughterhouses in this district and therefore, no meat inspection was carried out by the Council's Public Health Inspectors.

The number of slaughtermen licensed by the Council was as follows:-

<u>1966</u>	<u>1967</u>
8	7

EXPORT CERTIFICATES FOR FOOD. Situated in the district are three cold stores dealing with meat and other frozen foods. Any food being exported from this country requires a certificate as to its fitness for human consumption and the Council's Public Health Inspectors issued the following certificates:

	<u>1966</u>	<u>1967</u>
Number of certificates issued in connection with meat exported	8	6
Number of certificates issued in connection with frozen fruit and vegetables exported	14	10

SURRENDER OF UNSOUND FOOD. The amount of food surrendered was:-

<u>1966</u>	<u>Meat</u>	<u>Fish</u>	<u>Other foods</u>
	9219 lbs meat	4 stone herrings	10288 tins
	15 fowls		214 packets
	30 rabbits		20 cases
	12 lbs prepared meat		
<u>1967</u>	537 lbs meat	11 cans herrings	9353 tins
	2 fore-ends bacon	5 cans kippers	1972 packets
	44 lbs tinned ham		280 lbs flour
	10 lbs tinned liver		

APPENDIX IV - FOOD HYGIENE (continued)

SEIZURE OF UNSOUND FOOD. None

FOOD UNFIT FOR CONSUMPTION EXPOSED TO SALE. The items of food subject to complaint to this office by customers were:-

	<u>1966</u>	<u>1967</u>
Moulds	3	1
Metal other than F.B.	2	2
Insects and their larvae	2	1
Mineral oil	1	1

Most were transferred to the Kent County Council Weights and Measures Department for the necessary legal action to be taken. Proceedings had the following results:

<u>1966</u>	<u>Fine</u>	<u>Costs</u>
Sausage rolls -mould growth	£10	£7. 7. 0.
Crunch bar - insect larvae (2 samples)	£10	£6. 6. 0.

1967 None

LABORATORY EXAMINATIONS.

Ice-cream. The following results were obtained by the methylene blue tests.

	<u>1966</u>	<u>1967</u>
Grade I	7	5
II	1	2
III	1	-
IV	-	1
Total samples	2	8

Milk. The following results were obtained by the designation tests by the Weights and Measures Department of the Food and Drugs Authority:

Designation	Appropriate Test	No.of samples examined		Failed	
		<u>1966</u>	<u>1967</u>	<u>1966</u>	<u>1967</u>
Untreated	Methylene blue	-	-	-	-
Pasteurised	Methylene blue	68	30	(inc ⁹ ₀ void)	2
	Phosphatase			0	0
Sterilised	Turbidity	-	-	-	-
Ultra-heat treated	Colony count	3	1	0	0

ADDENDUM.

MILK. On Dec.31st the Ministry of Agriculture Fisheries and Food had on their register:

	<u>1966</u>	<u>1967</u>
Dairy farms	19	20
Producers licences for untreated milk	6	3

The Kent County Council as Food and Drugs Authority had in force:

	<u>1966</u>	<u>1967</u>
Dealers licences for special designations		
Untreated	9	11
Pasteurised	41	44
Sterilized	35	37
Ultra-heat treated	17	19

APPENDIX V - FOOD CONTENT

Samples taken by the County Sampling Officers within the Dartford District during 1966 and 1967 were as follows. The samples were taken by the County as this Rural District is not a Food and Drugs Authority,

<u>Summary</u>	<u>1966</u>	<u>1967</u>
Milk	38	35
Drugs	14	14
Spirits	8	10
Other samples	<u>98</u>	<u>94</u>
	158	153
Found unsatisfactory	14	18

Of the unsatisfactory samples, 8 in 1966 and 5 in 1967 concerned matters recorded above under Food Hygiene. Of the remaining 7 and 13 relating to Food Content, the details were as follows:-

<u>Samples</u>		<u>Analysis</u>	<u>Action taken</u>
		<u>1966</u>	
<u>Food</u>	Bread	Contained brass weight	Scales replaced by self indicating type
	Bread	White bread contained brown bread	Manufacturer informed
	Bread	-do-	No action
	Beefsteak with gravy	Beef content low	Follow-up satisfactory
	Stoned Raisins	Contained glass	Manufacturers cautioned
	Whisky	Added water	Absolute discharge with payment of Advocate's f
		<u>1967</u>	
	Milk	Contained glass	Manufacturers cautioned
	Milk	-do-	-do-
	Milk	Contained 35% water	Prosecution precluded by circumstances
	Milk	Contained paper	Dairyman cautioned
	Milk	Incorrect labelling	Further samples satisf
	Milk	-do-	-do-
	Butter	Contained vegetable bristles	Manufacturers contacted
	Chocolate Raisins	Contained nuts	-do-
	Mushrooms	Incorrect labelling	-do-
	Melon juice powder	-do-	-do-
	Frozen peas	Contained foreign matter	Manufacturers cautioned
<u>Drugs</u>	Pure Glycerine B.P	Contained slight amount of water	No action

APPENDIX VI ENVIRONMENTAL RADIATION

Strontium 90 in milk

Strontium Units *



KENT	1962	1963	1964	1965	1966	1967	1968
1st qr	4.1	8.8	28.4	25.6	13.4	9.0	0.8
2nd qr	7.5	19.8	28.3	16.7	11.3	7.0	1.6
3rd qr	12.9	33.8	20.7	13.0	8.9	5.4	5.0
4th qr	12.0	28.3	19.1	12.4	8.1	7.6	4.0
Year	9.1	22.7	24.1	16.9	10.4	7.3	2.9

UNITED KINGDOM

Deposition Sr.90 mCi/km ²	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Annual deposit	5	8	2	2	11	19	15	6	3	1	1
Cumulative deposit Dec.31	15	23	24	26	35	53	67	71	72	71	71
Mean strontium 90 values (pCi/g. Ca)											

Milk	7	10	6	6	12	26	28	19	12	9	8
------	---	----	---	---	----	----	----	----	----	---	---

*pCi/= picocurie. pCi/g. Ca = Strontium Unit = picocuries Sr.90 per gramme calcium

RADIOACTIVE SUBSTANCES ACT 1960 Certificates of registration under section 1

Regis- tered	Premises	Radioactive substances	Maximum Radioactivity	Date began	Regis- tration revoked
24.9.63	Factory	Strontium 90	20 millicuries	1.12.63	
14.9.64	Factory	Caesium 137	2 millicuries	15.9.64	
3.3.65	Training College	Cobalt 60 Radium 226	35 millicuries 1 millicurie	3.3.65	16. 6. 66

APPENDIX VIIA- AIR HYGIENE
POLLUTION WITH PRODUCTS OF COMBUSTION

The Volumetric Gauges

The nature of the sites of the gauges needs consideration if one is to study the records of the whole area. Up to the end of 1967 none of the gauges was in a smoke control area.

Swanley I Code B3 is in the public health office which is one of numerous separate well-spaced buildings in their own grounds on central heating by oil or electricity. Medium density housing lies to the North-East round to the South-West. Elsewhere there is open space.

Stone (Horns Cross) Code X is in the A.P.C.M. research laboratory which again is in park land beyond which is medium density housing in the West and North-West $\frac{2}{3}$ mile to the North are two cement works.

Swanscombe 2 Code B2 is in the precincts of the Swanscombe Council Offices in a small park amongst medium density housing with open space within $\frac{1}{4}$ mile to the South and to the North. Cement works lie $\frac{2}{3}$ mile to the North and a mile beyond is the River Thames and its open space.

Northfleet 5 Code X is on the 2nd floor of Northfleet Council offices. In the immediate vicinity is residential housing of medium density. Open country begins within $\frac{1}{4}$ mile to the South. Within $\frac{1}{2}$ mile to the North and North-East is an industrial area with a cement works, paper factory and electricity generating station dominating the environment. To the North beyond is the open space of the River Thames.

Dartford 6 Code D2 is in the public health office in the commercial centre of the town set back 10 yards from a traffic laden street and with a park in the vicinity to the South and industry to the North.

Three gauges - Stone (Horns Cross), Swanscombe and Northfleet have cement works in the vicinity. These might be kept in mind as the dust from these works will modify the darkness of the smoke stain and it is possible that it might diminish the acidity from which the SO_2 readings are assessed.

Class Code (National Survey Site Classification)

In the national survey of which these readings form part each gauge site is given a code number as a concise way of classifying the surroundings of each site.

The meanings of the codes are as follows:

- | | |
|----|--|
| B2 | Residential area with medium-density housing, typically in an inner suburb or housing estate, surrounded by other built-up areas but interspersed with some industrial undertakings. |
| B3 | Residential area with medium-density housing surrounded by or interspersed with areas with low potential A.P. output (parks, fields, coast), or any residential area with low-density housing. |
| D2 | Small town centre; limited commercial area mixed with old residential housing and possibly minor industry. |
| X | Unclassified site or mixed area |

Smoke calculations

These are by use of the British Standard Smoke Calibration Curve.

APPENDIX VIIB- AIR HYGIENE (continued)
 POLLUTION WITH PRODUCTS OF COMBUSTION
 SMOKE/SO₂ RATIOS IN MONTHS OF MINIMUM AND MAXIMUM POLLUTION

	June			July			August		
	Smoke	SO ₂	Ratio	Smoke	SO ₂	Ratio	Smoke	SO ₂	Ratio
SWANLEY									
1963	19	68	.28	20	54	.37	20	39	.51
1964	19	65	.29	21	75	.28	25	75	.33
1965	21	95	.22	15	68	.22	20	88	.23
1966	22	65	.34	19	70	.27	14	68	.21
1967	12	68	.18	N	N	N	N	N	N
HORNS CROSS									
1963	15	71	.21	10	61	.16	12	48	.25
1964	16	51	.31	21	70	.30	21	67	.31
1965	15	66	.23	8	45	.18	18	53	.34
1966	19	44	.43	20	30	.67	21	28	.75
1967	15	47	.32	13	53	.25	N	N	N
NORTHFLEET									
1963	17	90	.19	11	58	.19	12	54	.22
1964	17	58	.29	17	17	.15	21	75	.28
1965	16	101	.16	13	61	.21	20	83	.24
1966	20	88	.23	22	74	.30	21	72	.29
1967	16	93	.17	17	75	.23	19	58	.33
SWANSCOMBE									
1963	-	-	-	-	-	-	-	-	-
1964	-	-	-	-	-	-	-	-	-
1965	-	-	-	-	-	-	-	-	-
1966	18	92	.20	19	55	.35	18	77	.23
1967	15	72	.21	13	62	.21	13	42	.31
DARTFORD									
1963	30	108	.28	26	76	.34	29	81	.36
1964	31	88	.35	29	91	.32	36	89	.40
1965	30	104	.29	23	74	.31	40	94	.43
1966	34	94	.36	41	81	.51	36	98	.37
1967	34	111	.31	28	97	.29	34	77	.44
	December			January			February		
SWANLEY									
1963/64	-	N	-	-	N	-	-	N	-
1964/65	102	208	.49	62	146	.42	65	213	.31
1965/66	51	102	.50	53	150	.35	47	83	.57
1966/67	67	120	.56	82	173	.47	57	123	.46
1967/68	90*	173	.52	66	178	.37	63	132	.48
HORNS CROSS									
1963/64	139	149	.93	133	153	.87	171	165	1.04
1964/65	91	137	.66	54	101	.53	82	151	.54
1965/66	81	78	1.04	83	89	.93	44	54	.81
1966/67	59	73	.94	72	97	.74	47	61	.77
1967/68	66	93	.71	55	125	.44	50	78	.64
NORTHFLEET									
1963/64	167	157	1.06	159	175	.91	194	178	1.09
1964/65	101	198	.51	68	138	.49	87	185	.47
1965/66	93	165	.56	114	165	.69	53	101	.52
1966/67	67	142	.47	89	168	.53	58	110	.53
1967/68	87	171	.51	74	191	.39	59	105	.56
SWANSCOMBE									
1963/64	-	-	-	-	-	-	-	-	-
1964/65	-	-	-	-	-	-	-	-	-
1965/66	94	96	.98	104	115	.90	49	63	.78
1966/67	-	N	-	85	146	.58	-	-	-
1967/68	89*	136	.65	75	159	.47	74	98	.76
DARTFORD									
1963/64	214	268	.80	197	282	.70	199	262	.76
1964/65	130	259	.50	91	203	.45	103	293	.33
1965/66	117	186	.63	132	226	.58	69	121	.57
1966/67	94	183	.51	116	238	.49	74	152	.49
1967/68	106	265	.40	91	304	.30	111	204	.54

* Reflectometer reading of 20 to 39 .°. true value greater than that quoted

APPENDIX VII.C - AIR HYGIENE (continued)
 POLLUTION WITH PRODUCTS OF COMBUSTION (continued)

Number of days when readings exceeded 500 microgrammes per cubic metre

	Winter	Smoke	Sulphur-dioxide
	Highest daily readings given alongside		
SWANLEY	1963/4	3 619 (Dec)	4 786 (Jan)
	1964/5	0	3 730 (Dec)
	1965/7	0	0
	1967/8	0	1 603 (Dec)
HORNS CROSS (STONE)	1963/4	2 873 (Nov)	0
	1964/8	0	0
SWANSCOMBE	1963/6	no readings	no readings
	1966/7	0	0
	1967/8	0	1 544 (Jan)
NORTHFLEET	1963/4	3 534 (Feb)	4 542 (Feb)
	1964/5	0	0
	1965/6	0	1 562 (Dec)
	1966/7	0	1 556 (Jan)
	1967/8	0	0
DARTFORD	1963/4	5 837 (Feb)	11 785 (Jan)
	1964/5	0	8 1106 (Nov)
	1965/6	0	1 533 (Nov)
	1966/7	0	4 542 (Jan)
	1967/8	0	4 1069 (Jan)

APPENDIX VIID
 DEGREE DAYS

A "degree day" is a concise way of expressing a difference of 1°F maintained for 24 hours between outside temperatures (when lower) and 60°F. Figures kindly provided by the Gas Council.

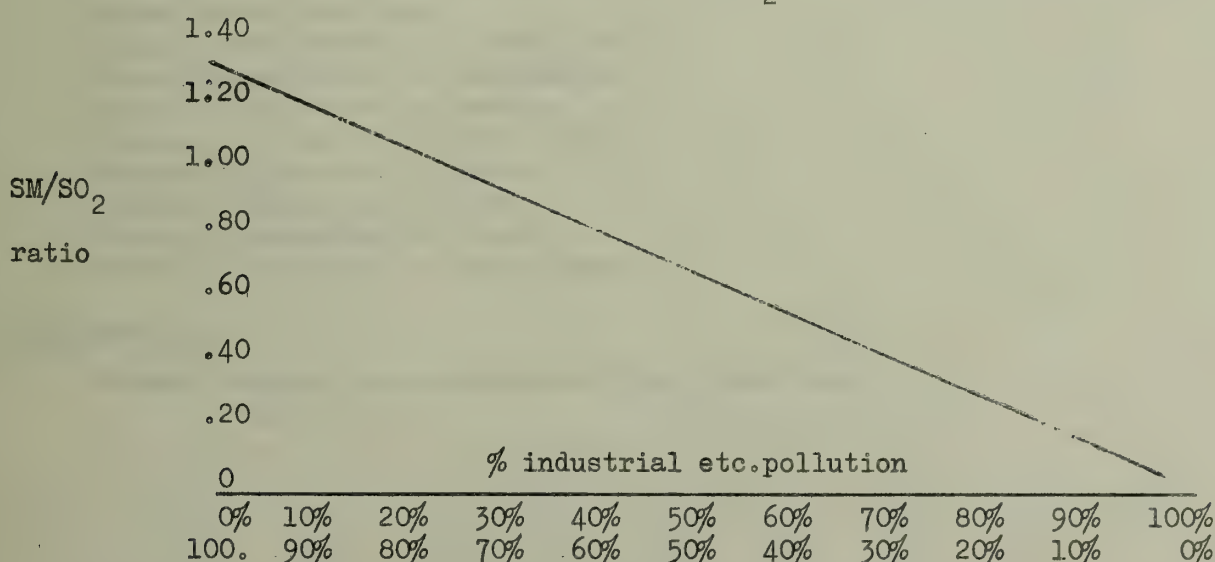
	Average 1947-67	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68
September	137	202	169	143	186	129	124
October	304	312	308	393	272	243	224
November	499	560	423	425	565	515	535
December	632	793	796	652	590	560	633
January	702	1031	765	653	740	619	646
February	613	859	625	623	447	507	675
March	544	556	657	550	497	436	488
Oct-March	3294	4111	3574	3296	3111	2880	3201
April	403	410	411	383	398	434	408
May	255	310	172	233	260	261	310
Sept-May	4089	5033	4326	4055	3955	3704	4043
June	125	124	142	130	75	125	108
July	76	104	55	96	87	55	82
August	85	118	81	90	113	79	54
June-August	286	346	278	316	275	259	244

APPENDIX VIII - AIR HYGIENE (continued)

POLLUTION WITH PRODUCTS OF COMBUSTION

INTERPRETATION OF SMOKE/SO₂ RATIOS. In 1965 in England and Wales 0.90 million tons of smoke were emitted from domestic coal-fire chimneys with 0.70 million tons of SO₂. From the chimneys of efficient fuel combustion i.e. industry, electricity generating stations etc. 0.25 million tons of smoke were emitted with 5.62 million tons of SO₂. (Investigation of Atmospheric Pollution 1956-66 tables 1 and 2). The smoke/SO₂ ratios of these emissions were thus 90/70 = 1.29 and 0.25/5.62 = 0.05. Ratios resulting from different proportions by volume might be expressed thus:

Domestic coal burning ratio = 1.29	Sources of efficient combustion industry, electricity generating etc. ratio = 0.05	Smoke/SO ₂ Ratio of mixture
100%	0%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 100 + 0.05 \times 0}{1 \times 100 + 1 \times 0} = 1.29$
90%	10%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 90 + 0.05 \times 10}{1 \times 90 + 1 \times 10} = 1.16$
80%	20%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 80 + 0.05 \times 20}{1 \times 80 + 1 \times 20} = 1.04$
70%	30%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 70 + 0.05 \times 30}{1 \times 70 + 1 \times 30} = 0.92$
60%	40%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 60 + 0.05 \times 40}{1 \times 60 + 1 \times 40} = 0.79$
50%	50%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 50 + 0.05 \times 50}{1 \times 50 + 1 \times 50} = 0.67$
40%	60%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 40 + 0.05 \times 60}{1 \times 40 + 1 \times 60} = 0.55$
30%	70%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 30 + 0.05 \times 70}{1 \times 30 + 1 \times 70} = 0.42$
20%	80%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 20 + 0.05 \times 80}{1 \times 20 + 1 \times 80} = 0.30$
10%	90%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 10 + 0.05 \times 90}{1 \times 10 + 1 \times 90} = 0.17$
0%	100%	$\frac{\text{Smoke}}{\text{SO}_2} = \frac{1.29 \times 0 + 0.05 \times 100}{1 \times 0 + 1 \times 100} = 0.05$



The above is an oversimplification. There are sites in U.K. giving ratios much greater than 1.29 but I imagine that these have exceptional sources of pollution or perhaps features which remove SO₂.

APPENDIX VIII RODENT CONTROL, DISINFECTION AND DISINFESTATION

The following is a summary of the work carried out by the Council's Rodent Officer:

	Type of property			
	1966		1967	
RODENTS:	Non-agricultural	Agricultural	Non-agricultural	Agricultural
Total No. of properties inspected following notification	649	52	667	17
No. infested by (i) rats	543	44	431	15
(ii) mice	71	2	76	2
Total No. of properties inspected for rats and/or mice for reasons other than notification	16	21	60	21
No. infested by (i) rats	12	12	51	10
(ii) mice	4	Nil	Nil	Nil

DISINFESTATION:	1966	1967
Council houses disinfested of bed bugs	1	-
Private dwellings - ditto -	-	-
Council houses disinfested of fleas	2	2
Private dwellings - ditto -	1	2
Houses disinfested of ants	14	15
Houses disinfested of wood-worm	-	1
Houses disinfested of beetles	3	5
Houses disinfested of swarms of flies	3	5
Houses disinfested of swarms of bees	9	11
Wasps nests destroyed	145	270
Houses disinfested of silver fish	1	1
Houses disinfested of cockroaches	4	3
Houses disinfested of earwigs	1	3
Houses disinfested of red spider	-	-
Houses disinfested of moles	1	6
Houses disinfested of moths	-	-
Houses disinfested of frogs	-	-
Houses disinfested of other insects	3	5

DISINFECTION:		
Houses, bedding etc. disinfected after infectious disease	-	-

APPENDIX IX - PLACES OF WORK

FACTORIES:

Under the Factories Acts the district council enforces the following Sections:
 (a) Section 7 (sanitary conveniences) in all factories (b) Sections 1, 2, 3, 4, 6 (cleanliness, temperature, ventilation and drainage of floors) in all factories where mechanical power is not used.

The following work was carried out by the Council's Public Health Inspectors:

1. INSPECTIONS UNDER PART I, FACTORIES ACT, 1961.

	Number on register		Number of inspections		Number of written notices		Number of occupiers prosecuted	
	1966	1967	1966	1967	1966	1967	1966	1967
Premises								
i) Factories in which sections 1,2,3,4 & 6 are to be enforced by the Local authority	8	8	3	-	-	-	-	-
ii) Factories not included in (i) in which S.7 is enforced by the Local Authority	112	117	13	12	5	5	-	-
iii) Other premises in which S.7 is enforced by Local Authority (excluding out-workers premises)	8	28	2	2	-	-	-	-
Totals	128	153	18	14	5	5	-	-

2. PARTICULARS OF DEFECTS FOUND:

Particulars	Number of defects found		Defects remedied		Referred to H.M. Inspector		Referred by H.M. Inspector		Number of prosecutions	
	1966	1967	1966	1967	1966	1967	1966	1967	1966	1967
Section 1	-	-	-	-	-	-	-	-	-	-
Sections 2,3,4 & 6	-	-	-	-	-	-	-	-	-	-
Section 7 (Sanitary conveniences)										
(a) Insufficient	-	1	-	1	-	-	-	-	-	-
(b) Unsuitable or defective	5	4	2	2	-	-	4	2	-	-
(c) Not separate for the sexes	-	-	-	-	-	-	-	-	-	-
(d) Other offences against the acts (excluding out-workers)	-	-	-	-	-	-	-	-	-	-
Totals	5	5	2	3	-	-	4	2	-	-

The number of Factory Inspections has fallen off since the coming into force of the Offices, Shops and Railway Premises Act, 1963, as this Act made it the responsibility of the Factory Inspector to deal with sanitary accommodation in offices and factories. To prevent two officers visiting one premises to enforce similar requirements in separate parts of the building, the policy has been to await reports from the Factories Inspector regarding sanitary accommodation.

APPENDIX IX - PLACES OF WORK (continued)

OUTWORKERS:

	1966	1967
(a) Total number of outworkers notified to the Council by firms in the Dartford Rural District under Section 110 (1c) Factories Act 1961	38	33
(b) Total numbers of outworkers notified by Dartford Rural District Council to other Councils under Section 110 (2) Factories Act, 1961	7	7
(c) Total number of outworkers notified to Dartford Rural District Council by other Councils under Section 110 (2)	37	41
(d) Total number of outworkers employed in Dartford Rural District	68	67
(e) Total number of inspections of work-places under Section 111 (i) Factories Act, 1961.	Nil	Nil
(f) Scheduled occupations followed by outworkers in Dartford Rural District -		
Making wearing apparel	15	22
Making of boxes or other receptacles or parts thereof made wholly or partially of paper, cardboard, chip or similar material	28	21
Firework cases	12	4
Christmas crackers	-	-
Lampshades	13	20

SHOPS AND OFFICES:

Number of premises registered under the Offices, Shops and Railway Premises Act, 1963:

	1966	1967
Offices	59	67
Retail Shops	178	180
Wholesale shops and warehouses	11	11
Catering establishments open to the public, canteens	43	43
Fuel storage depots	4	4

The total number of visits to the premises made by the Councils Public Health Inspectors was as follows:-

<u>1966</u>	<u>1967</u>
76	85

PUBLIC HEALTH COMMITTEE

1966-67

1967-68

Chairman	Mrs.Y.M. Fry	Chairman	Mrs. Y.M. Fry
Vice Chairman	Mr. E.J. Neal	Vice Chairman	Mrs.F.E.Webster
Mrs. J.M. Kent	Mr. E. Petty	Mrs. H.J.Latter	Mr.D.G.Foreman
Mrs. F.E. Webster	Mr. H.C. Russell	Mrs. J.M.Kent	Mr. W.F.Gough
Mr. A.C. Bush	Mr. F.T.C. Sims	Mr. A.C.Bush	Mr.A. Hill
Mr.E.D.Costin	Mr.D.G. Sweetland	Mr. D.Farrell	Mr. E.Petty
Mr. S.D. Cuttill	Mr.A.J. Talbot	Mr. D.S.Cuttill	Mr.F.D.Webster
Mr.A.E. Jacob	Mr. F.D. Webster		
Mr. G.Mellor	Mr. F.H.Wiseman		

PUBLIC HEALTH OFFICERS

Medical Officer of Health (part-time)	J.H. HUDSON
Senior Public Health Inspector	N.L.BROWN
Public Health Inspectors	F.W.DRURY
	A.J.THRUSSELL
(to 29.8.66)	J. TUCKER
(from 29.3.67 to 14.3.68)	G.A. HUNTER
(from 1. 6.68)	M.J.DUDDING
Pupil Public Health Inspectors	
(to 6.9. 67)	K.R. CURTIS
(from 4.12.67)	C.R.MARTIN
Clerical Assistant	L.R. HICKS (Miss)
" " (from 10.7.67)	E. OLIVER
Shorthand typist (part-time) (from 14.3.66)	M.E.FRASER (Mrs)
Rodent Operator	C.J. BOWMAN

